

RADIO-PERCEPTION

THE JOURNAL OF THE
BRITISH SOCIETY OF DOWSERS

Vol. VII No. 53



SEPTEMBER, 1946

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BRITISH SOCIETY OF DOWSERS

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OBJECTS OF THE SOCIETY

(a) To encourage the study of all matters connected with the perception of radiation by the human organism with or without an instrument.

(b) To spread information amongst members, by means of a journal, lectures and other means, about the use of dowsing for geophysical, medical and agricultural and other purposes and for tracing objects animate or inanimate.

(c) To keep a register of dowsers for water, minerals, oil, and for other purposes.

RULES OF THE SOCIETY

I.—Membership.

The Society is open to all persons interested in radiation-perception. The Council has power to appoint honorary members.

II.—Entrance Fee and Subscription.

(a) The entrance fee for permanent residents in Great Britain is 10/6, and the annual subscription is 10/-.

(b) The entrance fee for permanent residents overseas is 10/6, and the annual subscription 5/-.

The subscriptions under (a) and (b) may be compounded for by the payment of a Life Member's subscription of six guineas or of three guineas respectively.

The Council is empowered to decide any special cases in connection with the payment of subscriptions.

III.—Management.

The Society will be managed by a Council consisting of a President, who will act as Chairman, and five members, one of whom will act as Treasurer and Secretary.

The President and members will be replaced as necessary by the Council, appointments being confirmed at a General Meeting.

All questions regarding the publication of the journal, lectures, meetings, allocations of funds to promote the objects and interests of the Society, will be settled by the Council.

Decisions of the Council will be arrived at by correspondence if necessary, the facts being recorded in the Minute Book.

Decisions will be decided by a majority vote, the Chairman having a casting vote.

The Council has power to co-opt other members for special purposes.

IV.—Accounts.

The financial year will be from July 1st to June 30th.

Audited accounts will be published annually within two months after the end of the financial year.

V.—General Meeting.

A General Meeting will be held annually, and other meetings when considered necessary by the Council.

JOURNAL OF THE BRITISH SOCIETY OF DOWSERS

Vol. VII. No. 53

September, 1946

NOTICES

Members are reminded that subscriptions for the year 1946-1947 became due on July 1st, namely, 10/- for home members and 5/- for members overseas.

* * * * *
A Title Page and Contents for Vol. VI have been printed, and will be supplied by the Editor on application.
* * * * *

The Council will be glad to hear of anyone living in an easily accessible part of London who would be kind enough to lend a room for small meetings of members for two or three hours in the afternoon once a month.

* * * * *
The price of new *Journals* to members, in excess of the free number, and of old *Journals* is 1/- and 9d. respectively.

Six free copies of the *Journal* will be given, on request, to writers of articles in it, in addition to the usual copy.
* * * * *

Mrs. Kingsley Tarpey's little book, *Healing by Radiesthesia*, which was reviewed in the March *Journal*, can be obtained from the Forum Publishing Company, 64 Winifred Road, Coulsdon, Surrey; or from Mrs. Kingsley Tarpey, 35 Downside Crescent, Belsize Park, N.W.3; price 2/6, post free.
* * * * *

Radiesthesia II and Dr. Richard's *Medical Dowsing* can be obtained from Miss Barnard, 25 Berkeley Square, London, W.1, at 3/6 and 1/1 post free, respectively, or 4/6 if ordered together.
* * * * *

Pendulum Play, the beginner's instruction manual, is obtainable by members at 4/- instead of the usual 5/- retail price, from the author, Mr. N. Macbeth, Moulsham Millhouse, Chelmsford, Essex.
* * * * *

A fully illustrated book entitled *La Radiesthésie au Seuil de la Science*, by Charlotiaux and Dohet, which is to be published shortly by l'Administration de la Revue Internationale de Radiesthésie, can be ordered through Mr. F. W. de Valda, 160 Castle Hill, Reading, price 12/6 post free. A discount of 15 per cent. will be allowed to members.

Copies of the quarterly *Revue* referred to in the last *Journal* can be supplied to subscribers by Mr. de Valda ; price to members 12/6 post free per copy less 15%, or 36/- per annum less 10%.

The following Divining Rods can be obtained from Mr. Guy Underwood, Belcombe House, Bradford-on-Avon, Wilts :—

OASIS Pocket Divining Rod (in case), 10/-.

Ditto, larger "Supersensitive" Type, 21/-.

ROTOGAUGE Estimating Rod, 12/6.

Also

Reprints of four articles and a lecture on dowsing published in the *B.S.D. Journal*, price 6/- the set.

All post free, cash with order, and subject to a discount of 20 per cent. (4/- in the pound) to members of the B.S.D.

Whalebone strips, cut to the following dimensions, can be obtained from Messrs. Devine and Co. Ltd., St. Stephen's Road, Old Ford, London, E.3, at the price of 5/- per rod (2 strips).

Flat : 12in. long x 7mm. wide x 2mm. or 3 mm. thick.

Circular : 12in. long x 3mm. or 4mm. in diameter.

Square : 12in. long x 3mm. or 4mm. square section.

Rods made of strips of these sizes have been tested by a number of dowzers, and are recommended by the B.S.D. Investigation Committee.

Spherical whale-ivory pendulums can also be supplied at 8/- each. Prices for rods and pendulums prepared to specific dimensions are given on request.

All prices are post free in U.K.

The Society's badges can be obtained from the Honorary Secretary. Owing to the increased cost of postage, the price is now 1/3 post free.

Communications for the Editor, and inquiries, should be sent to Colonel A. H. Bell, York House, Portugal Street, London, W.C.2.

ANNUAL PROGRESS REPORT & ACCOUNTS : BIOPHYSICAL LABORATORY, BOURTON-ON-THE-HILL, GLOS., FOR 1945-46

BY J. CECIL MABY, B.Sc., A.R.C.S., F.R.A.S.

Research Work, Surveys, &c.

As was reported in the *Journal* last year, an intensive attack was made between February, 1945, and February, 1946, on the phenomenon of the rotating paper cylinder (to which Lord Dowding

called attention) and variants of same, with the intention to produce a practical, commercial instrument for the ultimate use of dowsters, medical radiesthesists and physiologists. In all, several thousand hours of almost continuous day and night work were put into this research problem by the writer, kindly assisted by A. H. Reeves and others; several valuable suggestions having been received from visitors and correspondents, including H. E. Barrett, Esq. (a radio engineer), L. E. Eeman (B.S.D.) and D. O. King (B.S.D.). Thus six alternative models were worked out as giving preliminary satisfaction in relation to *field work on streams, &c., human psycho-physiology* (including responses to what seems to be intra-bodily nervous discharges and also externalisation of some ultra-short-wave radiant energy, corresponding to L. E. Eeman's and Professor F. Cazzamali's and the writer's hypotheses respectively), and *testing eggs and other objects* for their positive or negative polarisation in the dowser's sense.

Preliminary papers and notes on this subject appeared in the *Journal* and elsewhere during the year, and a very complete and conclusive case was made out for the phenomenon, as claimed, by dint of close attention to precise dimensions, form, temperature, local electromagnetic conditions, screening and even, perhaps, colour. Also many hundreds of numerical readings were obtained under a wide range of conditions and experimental factors, and duly tabulated or graphed and analysed. So that, despite various sources of error and interference in the case of any particular set-up or experiment, the data could be treated statistically and safe conclusions drawn. The latter will be published in a special book or paper as soon as the preliminary experiments are complete and time permits.

NOTE.—Meanwhile it must be emphasised that such detectors are extremely sensitive to these main factors, one or more of which may be operative at any time and place, *and all but one of which must be more or less completely eliminated or accounted for in any particular test.*

- 1.—Large, moving cloud masses carrying electric charges—as in case of thunderstorms and large-scale cyclonic storms—which cause the instrument to go dead some hours in advance, plus certain irregular oscillations.
- 2.—The local presence and movements of human beings (effect detectable up to 100ft. or more under best instrumental and radio conditions), especially when in a state of emotional mental or muscular stress and when concentrating on the instrument itself—a kind of telekinetic action.
- 3.—Nearby running streams of water, h.t. electric cables, a.c. motors, transformers, fires, solenoids, &c., and quite low-power electronic oscillators.

- 4.—Magnetic fields (natural or artificial), which appear to have a polarising influence on any local "electronic" radiation. These should be kept uniform.
- 5.—Slow or sharp movements of any material body, small or large, in the vicinity of the detectors, giving increased responses at certain critical distances, such as, approximately, 6 cms. and five feet. Artificial energisation of such objects is not essential, this being another instance of the "Fraby" effect of moving targets on dowers and ionisation counters, &c., defined and instrumentally recorded by T. B. Franklin and the writer during the War. (Since independently confirmed by A. H. Reeves, a leading Radar expert and telephonic engineer).

These sources of energisation, with both horizontal (rotatory) and vertical (oscillatory) components, have been listed above in order of their average magnitude of effect. But distance and initial intensity of any one factor (radio source) are, of course, equally important. So that any one of the above factors may predominate at any given time or place; and certain precautions, as to screening, electromagnetic "damping," temperature and other sensitivity controls can be used to eliminate all but one factor in certain critical tests: *e.g.*, physiological polar and sexing tests. But perfection has not been achieved, hence the delay in production of one or more models for public use, including, I hope, a new form of weather gauge that will often anticipate barometric changes. There are also severe meteorological disturbances and diurnal cycles of activity to overcome, or else allow for, in any practical work. Early morning, dawn to about 11 a.m., and late evening, about 10 p.m. onwards, seem to be the best times, generally speaking, the afternoon always being the worst time. But oncoming storms are a second major factor, and serious numerical work can only be done in good, fine weather with settled atmospheric conditions.

The new radio-electrometer has been demonstrated to a number of B.S.D. members, electrical engineers and medical men, with success, and the principal reactions (electrical and physiological) shown: also at three public lectures by the writer, at St. Mary's Hospital Medical School, the Institute for Experimental Metaphysics, London, and the Oxford Psychical Research Society. Private demonstrations and discussions have also been held at Mr. L. E. Eeman's rooms, 24 Baker Street, W.1, when Lord Dowding and Colonel A. H. Bell were present, with Mr. O. F. Parker and Mrs. G. Barraclough of the B.S.D., and at this Laboratory last autumn, when several B.S.D. Council members spent two days here. On the latter occasion the writer demonstrated and explained the following additional research items, and it is presumed that the visitors were satisfied with the accounts then

given. This opportunity was taken because of the unavoidable delay in publication of our 1939-45 work for the Society, due to present shortages and restrictions.

- 1.—The writer's ultimate field methods for field surveys of underground water, &c., based on work since 1935 (much improved since *The Physics of the Divining Rod* (1939) was written, and tested out commercially for eight years), in which T. B. Franklin, W. H. Trinder, T. C. Line and others have ably assisted. This will be made the subject of a simple pamphlet, to be written this year and published by the Society for the use of field dowzers and beginners.
- 2.—The work of T. B. Franklin, W. H. Trinder and the writer on the so-called "fundamental rays" and also specific, beat (?) wavelengths emitted by (apparently) all materials; their detection and measurement by dowsing and instrumental means in the laboratory, and their relation to atomic and molecular weights, &c. This (instrumental) method will be further developed as soon as time and funds permit, using photographic recording that will, it is hoped, bring it into line with classical spectrum analysis for physicists. And it is important to note that W. H. Trinder, A. J. Wheeler (B.S.D.) in W. Australia, and the writer have independently arrived at the same general conclusions and values herein, whereas the confusion of the earlier French data appears to us to have been due to lack of magnetic stabilisation and, perhaps, other misapprehensions or faulty technique.
- 3.—The "Fraby" instrumental method of detection and direction finding of moving targets, such as aircraft, motorised transport or even pedestrians, &c., as developed by T. B. Franklin and the writer during the war for military use; though this was never fully worked out in the end, owing to the perfection of Radar. A modified form of ionisation counter, simulating the dowser's reactions, was used, and analysable tape records were obtained instrumentally.
- 4.—Certain data upon weakly radioactive waters, found to be malignant to human and animal health, also to some plants. Use of electrometers and photographic methods for detection, confirming the dowsing reactions and "fundamental ray" values.
- 5.—A new and improved method of using specific samples in relation to underground objects, including rough quantitative analysis of streams, &c. (Checked commercially by field results).
- 6.—Use of specially adapted ionisation counters, spinthariscopes and the new radio-electrometer for (academic and laborious) demonstration of the reaction bands found in field and

laboratory by expert dowzers; including certain micro-waves in the laboratory, some of which can, if a degree of syntonisation ("tuning") is achieved, be used to determine the specific nature of the source of radiation.

During the year under report, only fourteen major surveys for underground water were made by the writer, in addition to visits to a few uncompleted sites. This falling-off was due partly to the end of the War and partly to the Government's promise of piped supplies to all hamlets and accessible farms; though it is doubtful whether so ambitious a scheme will ever be completed in view of water, labour and material shortages and high costs—not in the near future, at least. Clients in remote spots have therefore been urged to carry out their own private schemes, if possible, in case of drought in the next few years. Indeed, many were short again last year.

The number of correspondents and visitors to the Laboratory greatly increased last year, and a day seldom passed without some query or request being received—especially by professional scientists and engineers. I am glad to say. Several public lectures have also been given, including two to radiesthetic and radionic societies (medical aspect) and one to the Institution of Sanitary Engineers, London. Papers will be published shortly in these respects. The probable bearing of Radionics and Radiesthesia on Psychical Research has also been dealt with by the writer in two other public lectures recently, and will be published in relevant journals.

The Laboratory has, therefore, it is felt, continued to justify its existence as a centre of research, publication and enquiry in connection with the various aspects of our subject. Since mid-winter, 1945, however, the writer's time has been seriously restricted by lack of domestic help and other current factors; and one attempt to obtain the services of a general laboratory assistant (part time) failed owing to high wage demands plus technical inefficiency. It is hoped, therefore, that would-be visitors and correspondents will kindly bear this in mind, limiting themselves to essential or urgent scientific matters only.

Financial Position

This has, unfortunately, worsened again, owing to reduction in both donations and survey work (see below) in the past year, while taxation has rendered matters yet more difficult. It has therefore become necessary to ask an appropriate fee or donation to research (the latter is preferred) in return for lectures, demonstrations or lengthy replies to technical queries. But as there was little hope of paying off the Bank overdraft referred to in previous years, the writer has himself now balanced this by a single capital payment, on which sum interest will be charged against the Laboratory Account.

Donations to Laboratory Fund, 1945-6

The following amounts were very gratefully received during the past year, ending April 5th, 1946, and duly credited to the research account, being used towards general upkeep and running expenses of the Laboratory.

By exercising the strictest economy all round, and thanks to the greater part of the year's work being upon the experimental testing and development of the new radio-electrometer (for which only materials in hand were needed), the total running costs were kept down to approximately £182. Against this, £105 10s. was received from private donations, a £50 grant by the B.S.D. Council and £172 by professional fees earned by the writer. Income tax assessment (based on previous year's earnings) was, however, £100 7s. The net amount left, therefore, to the credit of the Laboratory was £177 3s., which scarcely covered annual expenditure.

	£	s.	d.
G. F. C. Huntriss, Esq.	2	2	0
B.S.D. Grant by Council	50	0	0
Mrs. G. Barraclough	5	0	0
Mrs. Jourdain	1	0	0
J. R. Parkington, Esq.	5	0	0
D. O. King, Esq.	2	13	0
Captain T. C. Line	5	0	0
Dr. D. Russell	25	0	0
H. E. Barrett, Esq., and L. Barrett, Esq.	4	0	0
Colonel A. H. Bell	5	0	0
Mrs. N. Good	15	0	0
	105	10	0
Add Professional Fees from J.C.M.	172	0	0
	277	10	0
Less Deduction for Income Tax	100	7	0
TOTAL NET INCOME	£177	3	0

NOTE.—The foregoing brief report shows the general financial position as accurately as is possible, in view of the fact that the work is done on the writer's own premises, so that an annual apportionment has to be made relative to rates, fuel and light, telephone, car, &c., in respect of the Laboratory. But these have now been agreed to by H.M. Inspector of Taxes, Evesham, and a substantial reduction of tax (at first assessed at £162 7s.) was obtained after long discussion and cross-examination.

PART ONE

THE ROOTS OF PREJUDICE— AN APOLOGETIC

BY LESLIE LATHAM, F.G.S., F.R.A.S., F.R.S.A.

Throughout all the long ages over which their ancient craft can be said to have existed, the writings of, and about, water-finders have always placed great emphasis, almost by way of apology, upon the manifold physical hindrances which conspired to upset their work in the field. Such upsets have been variously attributed, according to the particular kind of prejudices under which the dowzers happened to be labouring at the time. Mediævally, with an honesty whose passing is lamented, it was roundly attributed to the Devil. In our own day, where the certainties of primitive instinct must yield to the uncertainties of scientific formulæ, we uneasily blame false zones, plane-rays, radio-active deposits and the like. But however we contrive to assuage our conceit upon the matter, we fall into the human enough trap of amplifying such difficulties to the dangerous exclusion of the more deadly, if less obvious, evils whose lurking we shall presently discuss. It is natural enough, after all, for us to expound so fully upon those errors whose workings we observe. And the danger is, we are answerable to none but ourselves, we feel. The dowser's fascinating, but none the less odd, craft segregates him at once from his more obviously sane, if duller, fellows. He becomes an object, at very least, of curiosity. But it is this very human reaction of the common man to the dowser's often dramatic phenomena which has the doubtful blessing of driving him into himself, as it were. He will thus be found, in his gatherings, his conversations, his societies and his journals, tending towards an almost self-centred attitude towards the world without. In this mood, we find him talking and writing autobiographically and in a language only understood by other rare persons in his group who have shared in some way his special experiences. This intellectual cloister is understandable enough, and the generally high reputation for honesty which typifies most of the craft is in no way really impaired. The moral danger of the attitude is, however, that it completely ignores the sober duty of each and every dowser to labour without ceasing as evangeland ambassador among the tolerant, but righteously sceptic, elements of his own narrow public. With which reflection we arrive at the crux of these considerations; for we shall now require you to prepare your mind for the somewhat startling hypothesis that prejudice itself, even mute and unexpressed, is imbued with physical force. We shall try to show, too, how that same force, as partially understood as it is devastating in

its effect, casts a more baneful distortion over the dowser's arts than all the more object irritations taken together.

At first sight, we shall argue with vigour the utter absurdity of supposing that any sort of spectator could, by sheer prejudice, and that unspoken or betrayed, influence materially the diviner demonstrating his craft. Before dismissing the suggestion however, let us examine it in the more searching light of orthodox human experience, for as we all know to our shame, it is invariably under "test" conditions that dowsers go quite wrong. Anyone having even the smallest experience of public speaking will, if they give the matter thought, readily agree how even a small element of hostility will seriously put one off; the fact that this element is politely veiled seems to make not the slightest difference. There can be little doubt about it, some primitive instinct causes us to positively feel even mute dislike of us; and this often in the most polite drawing-rooms. How do we detect this? Facial expressions remain as blandly masked as ever. Even the very tone and inflexions of formal flatteries sound as flawless as polished society demands. And yet, unless we possess the hide of the big-game hunter or club bore, we unerringly detect a queer, urgent repulsion. Nor can we necessarily pin down its origin to any one person.

An interesting thing about all this is, that however adult, responsible and logical we like to think ourselves, we appear really to have very little control over our reactions to our fellows. You may put this down, if you like, to a primitive warning system which operates in cases of temperamental antipathy, but it is all vitally interesting, none the less. With the best will in the world, we sometimes find these antipathies occasionally quite violent ones, welling up within us at the sight of some normal, harmless-looking being. Naturally, we do not shew this, and unless the person is hapless enough to try and marry into the family, or something equally irrevocable, we summon grace enough to feel ashamed of ourselves.

What is so important for our present purpose, however, is hardly so much the existence or origin of such prejudices as that the object of our malevolence should invariably prove so acutely conscious of them; this under circumstances where, as we have said, the surface is so unruffled. There is no doubt at all that this exceedingly unpleasant phenomena is within the experience of even the most hard-headed of us. And what is even more relevant to our hypothesis still, is that, however open-minded we may be, and however much we pride ourselves upon our impartiality, we seem prone to generate against mere ideas and institutions antipathies quite as real and uncontrolled as those we oppose to human beings as such. All dowsers who have striven at any time to impress a sceptic audience know how bitterly true this can be.

So soon as we admit this far-reaching principle of the detachable quality of prejudice, we have immediately to examine its serious potentiality as a first-rate scapegoat for that vast and sordid curse of error against which the gallant dowser has so long pitted his honesty and faith. He knows, to his cost, the futility of pleading, despite its truth, that dowsing is not, as yet, an exact science. Here, perhaps, at his very elbow, there lurks unsuspected among friends, relatives, helpers, or perhaps the idle curious, the root cause of all his strivings? Sometimes the clever ones among us might dimly contrive to grasp fragments of the bewildering plethora of scientific dogmatics with which the modern professors of divination have sought to contain it. But the one really simple emergent fact that all levels of intellect among us can nicely grasp seems to be that, first to last, it is the nervous system of the dowser himself from which is drawn the mystic energy which propels rod and ball alike. And it is this identical system, let us remember, whereby we are made so embarrassingly aware of our unpopularity upon occasions! The inference, we submit, is both obvious and grave. Here the door is wide open to a more dread and subtle form of attack than we have yet given serious thought for. What is more, if the mentality of our spectators is the peculiar, watertight mechanism we know so well, we shall discover that even if they make an effort of will to maintain open-minded and absolute neutrality, then so long as we are at work in their presence the attack will commence. This is especially so if they are of the logistic type, despite their best efforts at impartiality. In other words, there does actually exist the bystander who is mentally incapable of effectively suppressing a repellent reaction towards something which, he feels, threatens his preconceived norm; this despite his better self. And as our results under such conditions show, it is by no means enough that the audience should remain merely silent and politely attentive.

Before pursuing this arresting theme further, it is necessary to dispel any illusion that may have crept in that we are here attacking scepticism or sceptical persons. Far be it from us. The history of the craft shews that some of our greatest exponents are converts from an early antagonism of almost Pauline violence. Basically, in fact, human beings are healthiest in mind, it seems, when most sensitive in the avoidance of that which they understand not. And the recent history of mental research shews most tragically that only strong-minded beings, possessed of rare powers of adaptation, can safely be entrusted with novel and sometimes dangerously absorbing departures of enquiry. Even the dowser himself is served better by sober power of mind than by imagination and acute sensitivity. The men and women who are more than ordinarily jealous of their sanity are rightly the mainstay of a community, and we need not fear the scepticism

of such, which is without malice. Moreover, if it is to be a battle between their native caution and Truth in a strange garb, we may drowse contentedly on our way, for the result is assured. Nor, of course, is the mental specialist alone in his warnings to us as to the intricate delicacy of great mental innovation. The Church, too, with her centuries of ancient human experience, has demonstrated to a remarkable degree the Divine protection she enjoys by her success in steadfastly protecting her precocious progeny from the cinders of devilish innovation. Those of us who still love to hear her voice will be interested to hear that she has long ago canonically pronounced *ordinary* dowsing the happy and harmless pursuit it is! Islam, too, throughout whose territories the writer has done most of his work, has also found it necessary to deal sternly with the faithful on such points. Since the seventh century of our era this mighty cousin to Christianity and Judaism has taken her stand with Semitic passion alongside the revealed religions of the world's great monotheistic creeds, reserving the right to define precisely her children's approach to God and to truth. And speaking of Islam, it should be remarked that we are treating of it in its received, pristine forms as the writer has met it within vulture's flight of Mecca; not the cynical dilutions whose adulterations obtain throughout the areas that have known Frankish penetration. Working recently among the Arab tribes of Southern Arabia for the native rulers, we lately experienced almost insurmountable difficulty because the rod flexed upwards, thus pointing at Allah! The feeling of local religious thought was that obviously nothing short of sheer possession by a jin (evil one) could be behind so blatantly sacrilegious a gesture. This, so far as we could discover, was no mere superstitious whim, but a reasoned devotional attitude of a profoundly pious order.

If convincing evidence were needed for the power here claimed for scepticism; if you would measure indeed the disruptive prejudice that men emit, even when honestly maintaining, as they believe, an open mind; then the following series of tests will bring it home in a novel and startling manner. The setting is a very ordinary living room, comfortable and reasonably quiet. Drab, suburban respectability should be its keynote, with a marked absence of metal plaques and ornaments about the room. No violent Chelsea colourings of wall or furnishing; no alienist's visions captured by poor Picasso; nothing to challenge our tranquillity. Your helpers are three average human beings, each of the same sex as each other. If it can be ascertained that they are ignorant of divination, so much the better. Should they be comparative strangers, this is also preferable, as it is desired to avoid folk so well known one to another that their inevitable domination over each other is already established. It is too much to hope usually that even ordinary humans are soberly

clad, but if they are devoid of violent colours, then we need only two easy chairs to complete an ideal setting. If, without disturbing the confidence of these helpers, you can ensure that the two easy chairs face each other and are as far apart as possible, are not aligned along a north-south pole, a path of sunlight or electric light, then your precautions, sinister as they seem, are complete. Choose from your trio two principal assistants, and persuade them to sit down in the arranged chairs. No obstacle of any sort should intervene between the sitters, who should not be worried, excited, or (if it can be prevented) even in a state of amusement! At this point, in order to ensure their confidence and co-operation, you proceed quietly and briefly to detail the experiments you are about to do together, the object of which, you explain, is to demonstrate to them the unsuspected power of their own will. Pass round among your band an ordinary pendulum, and ask them to examine it; one of the whale-ivory type will do quite well. Demonstrate to the party the actions of the pendulum, the important thing being that they should have a clear mental picture of what it looks like oscillating back and forth; the difference between that, again, and rotation; this last, both clockwise and anti-clockwise respectively. Do not conceal the fact that in this initial demonstration you are yourself specially setting up these various motions for their benefit. Having accustomed your helpers to the behaviour of the pendulum, you now place yourself immediately in front of one of your sitters, suspending the pendulum before him at eye-level; his eye-level, that is. Then with a gentle, initiating beat of the wrist, cause the sphere to commence a steady oscillation to and from the watching sitter. Urging your sitter to watch closely, suggest that he makes up his mind that he requires the pendulum to develop a rotation in either a clockwise or anti-clockwise direction. Here it may be wise hastily to explain that your sitters are not expected to go into anything like a trance in their enthusiasm; they must merely visualise the sphere following the course they have selected. After some blundered attempts, the sitters will actually discover, to their surprise, that they are able very quickly to take control of the apparatus in this manner. It is a good safeguard, by the way, to insist that neither by word nor look they betray to you or anyone present the direction which they select for the pendulum. It helps, too, if you can ensure a suitable interval before the helper attempts to project his control. This gives you leisure to make sure that you have obtained a steady, rhythmic tempo in your oscillations. The ideal sitter will wait with an absolutely non-committal mind until you yourself utter a precautionary "Right"; even then they need not start their efforts at once, and should give no clue to the exact moment they do actually begin concentrating. Having thus gained the interest and confidence of the sitters, you may safely proceed to

further illuminating stages in the experiment. In other words, set the sitters to work on the same test blindly. This emphatically does not mean, nor does it ever mean, blindfolded. The very essence of all dowsing work is the natural poise of the participants, and the instinctive nerve tensions which always result from eye-coverings utterly defeat this end. No wise dowser ever lends himself to blindfolding, however impressive it looks. It is quite convincing enough to conceal the deposit, which amounts to the same thing.

But returning to our tests ; now that the subjects are familiar with the pendulum behaving as they wish, you run through the test again, but this time with a difference. Just before you utter the signal to the sitter to exert his control, your third helper, who is standing beside the sitter, interposes a screen of plain cardboard or stiff paper before the oscillating pendulum so that the sitter can no longer see its action. He should be persuaded to continue, however, to direct his gaze at that point upon the screen where he last saw the moving ball ; behind which, of course, it is still oscillating. When you are sure that he can still clearly visualise the action of the hidden pendulum, give him his signal as before, and wait. You will find that, uncertainly at first, and with several false starts initially, a rotation will, in fact, be set up. The response to this test may be slower, but with practice they will become positive enough to convince. In its finished state, you will find that if you ask the sitters whether they feel that the pendulum is yet acting as they wish they will be able to reply fairly confidently ; though they will be at a loss to explain the origin of their conviction in this respect. By far the most absorbing phase of these tests lies in their final stages, however. For this, you yourself and your helpers need another day and a fresh start, for the slightest tiredness will produce the usual dowser distortion (most dowsers, indeed, fail to realise how terribly brief in duration their daily allowance of personal accuracy really is). Throughout this test your settings will be as before, save that you yourself will stand so that the sitters are in view of each other ; in other words, you will be positioned nearly abreast of an imaginary line drawn between your seated helpers, whilst the pendulum, which you suspend at their eye-level, is immediately between them. On this line you take your stand as conveniently near to one of the sitters as possible. In this test your sitter is again asked to project his control over the pendulum's gyration, but your standing helper does not interpose the screen until after this control has been fully established. This time, too, the screen is kept suspended, not proximate to the pendulum but to the controlling sitter ; a comfortable two feet or so off his face. The same rules will apply here regarding the visualising of the rotations and the focusing of the gaze upon the spot on the screen in line with the hidden sphere. So soon as you are assured that

your near sitter has a distinct mental image of the rotation he has impelled, you commence the truly delicate task of carefully moving very slowly, sideways, towards the more distant sitter across the room. This movement should be so graceful a glide that the rotation of the pendulum is unimpaired. This is the point where your distant sitter takes a hand. He will, under your previous instructions, have been on the look-out to mark carefully the direction of the rotation now set up by his opposite number, from whom you are now gradually receding. It is of vital importance, for obvious reasons, that your second sitter, yourself and your standing helper, all maintain absolute mental neutrality. The second sitter, however, upon a verbal signal from yourself, will break his neutrality with a vengeance. He will not, of course, receive your signal until you are convinced that your first sitter has, in fact, exerted perfect control and is properly screened. Upon his receipt of the signal, the person whom you are approaching at once exerts all his effort of will to impel the approaching pendulum in the reverse direction. As you slowly make your way across the distance separating the two sitters, you will arrive at a point where the pendulum will, after passing through a hesitant oscillation, pick up a tentative rotation in a direction in opposition to that which was initiated by your first sitter. This rotation will strengthen and develop into a steady tempo in proportion to your increasing proximity to the new controller. This point of change is rarely related to any central, measurable point between the sitters, and seems to be related solely to their relative projecting power in relation to each other. We have observed this "wave-length," if we may so misname it, to vary over a period of time between the same opponents only where one happened to labour under some private worry, or to be unwell and "nervy." A fascinating fact about this final phase is that the initiating sitter will sometimes exclaim anxiously at the precise point where the control slips out of range, although, as previously stated, he is normally at a loss to explain his symptoms satisfactorily. We hope we may be pardoned for the wealth of space and of detail which we have expended upon these tests, but it is hoped that the reasons for this have emerged as obvious, since the slightest carelessness can ruin the most elaborate preparations.

Perhaps it will be conceded that from these observations there appears to emerge a positive canon of conduct for dowisers who find themselves compelled to work in the presence of lay folk. Not that we mean to codify a set of text-book law of practice; for allowing human nervous systems to be the source of detector energy, and admitting the distinct individuality of such systems, there is naturally going to obtain a notorious range of variation in choice of instrument and methods of work; and rightly so. But a first principle that emerges seems to be that we ought

never to lend ourselves to test conditions that savour either of a stunt or of polite parlour tricks. The "tapping" of latent natural instincts within ready reach of us is a serious affair fraught with sober responsibilities; any levity of treatment of which, even in a good-humoured atmosphere, will set up distorting and idiotic results. Nor can such damage ever be merely transient, for, in the very nature of the craft, each trivial setback will send back its tiny, subtle shock deep into our subconscious, to the jeopardy of our future confidence. It would seem, too, that in our inevitable treatment of potential converts, it is safer to allow them themselves to discover the existence and workings of emanations and principles under your verbal direction. In actual manual demonstration it is undesirable to go beyond instruction on holding and general poise. After all, it is they who wish to discover if they can divine; it is already widely reported that you yourself can! And their conversion is vital, for even if they go no further than their first initial reaction with the rod, you have effectively protected yourself for ever from the inadvertent distortions of their invidious wills. Avoid like the plague the invariable conspiracies to get you hunting stupid trinkets planted about rooms. Generally, embark upon no prospecting that lacks a seriously required end; unless, of course, you are instructing the genuine proselyte scrupulously "immunised" as above. Remember that unless converted first no audience has a secure, neutral aura in which you can perform without making yourself look silly. Faith is not only the continuous, but is the initial, quality demanded of the humblest dowser.

You will all have noted, no doubt, to your secret chagrin, how the finest dowsters of England are still the often unlettered, rustic exponents of the countryside. However much we smile at this man's Heath Robinson appliances and wild, semi-occult expositions, he none the less remains unchallenged our peer by sheer record and performance. With all our smug apologetics and pompous treatises, he humbles us to the dust. Yet the very qualities that lift him head and shoulders above us in the field; his glorious, unchallenged "affinity with the good earth"; his simple contempt for modern education and society's veneer, are the very elements that freeze him dead in the presence of science. As an evangel for the winning of converts, as a publicity agent for the craft, this worthy old expert collapses completely. The theories he haltingly propounds when forced to explain his arts are usually violently unacceptable and unreasoned, and cause most of the animosity we have to face. And it is under the most fair and impartial scientific tests that can be devised that this dowser has failed; not through any fault of his, but because of our universal failure to recognise the great psychiatric truths whose workings we have tried to trace. It remains, therefore, that each dowser can only safely be judged by actual performance

and cumulative repute; and this we can perhaps pardonably submit places a vast number of us out of suspicion? And we can be sure that more will join us if some of the precautions we have outlined are followed.

May we conclude this provocative epistle with a final consoling injunction? Do not envy your hyper-sensitive fellow dowser who locates everything with such impressive rapidity and unfailing accuracy. Beside the plodding, bare sensitivity under which you and I struggle, his lot is unenviably dangerous. We will always salute and admire his dramatic performance, true, and can always yield him pride of place when sudden, spot accuracy be required. But sensitivity, imagination and boundless enthusiasm with him are met together in sometimes uncontrollable proportions. And if you closely observe you will note that the higher his accuracy and sensitivity, the more work he will attempt, the faster he becomes "supercharged" and tires. And by "tires" we do not imply the ordinary physical edition, but the distorting that assails our detector system tragically unawares, and whose fruits are only too devilishly evident when the fatal bore is sunk.

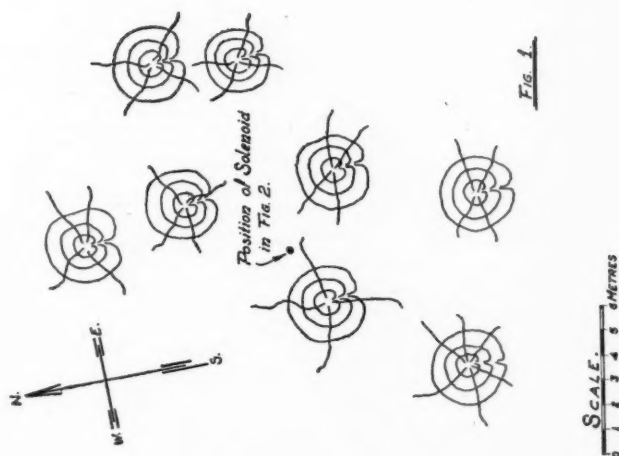
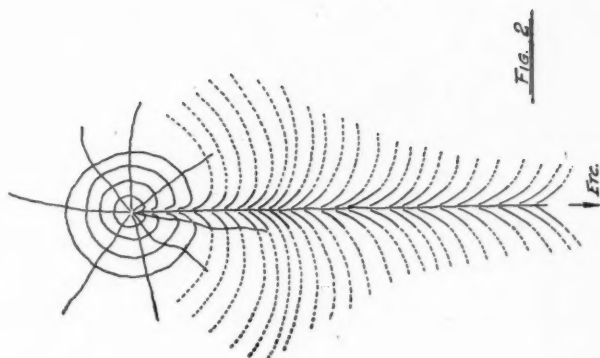
And for the craft's sake, if not for your own, choose your friends with care!

DOWSING OVER GRANITE

BY D. O. KING

In October, 1945, Mr. Sarghel (B.S.D.) drew my attention to the existence of what he called "cardioids" because they resemble an illustration of the pattern of radio-activity in Duclout's *Radiesthesia*, published in Buenos Aires.

This called for enquiry, in view of the fact that some granites can carry a few ounces of uranium per ton and that this rock very commonly outcrops in the local hills along a meridional band, some 400 miles in length. Associated with this granite are many pegmatites, and in one place uranium has been proved in a pleochroic mica, apparently. So far, I have not noticed any of these characteristic halos, nor do samples of the granite fog plates. The same negative result has been obtained with a black trap (melaphyre) which is abundant at El Pungo; refer to Boothby in the *B.S.D.J.*, II, 16, 365. And yet, from the dowsing angle, there is a lot of Mischievous Rock almost anywhere, more so where St. Elmo's fire is frequently seen. The bluish discharges (it is not ball lightning), I am told, shift laterally along a definite path and vary in colour and shape, according to the speed at which the observer leaves the spot. I have not yet seen any of this "Andean lightning," and it is interesting to note that, at the spots pointed out to me, the rock (bare or thickly



covered with vegetation) sometimes consists also of a thin layer of steeply inclined slates and mica shists over granite, suggesting radon gas as rising from depth. Ordinary lightning does not appear to be attracted specially to these patches.

The cardioids (ovoïds may be more descriptive) are found within these patches (Fig. 1). They are irregular in shape, and

some are quite small and others several hundred square metres in extent. So that there may be one or more ovoids within a patch. Each complete ovoid is composed of four to eight conducting (?) lines to a common centre and an indefinite number of rings. It has not been found possible to disentangle the outer rings of two neighbouring ovoids, but Fig. 2 shows the effect of setting up a Busby solenoid,* without the two resonators, in the centre of the patch shown in Fig. 1, *i.e.*, the group of ovoids disappears and is replaced by a single large one. But the whole pattern is removed when the resonators are set up, although Mr. Busby does not find that the radial lines do so. It may be a question of the strength of the radio-activity at the spot. At first I was inclined to consider them as representing some sort of shifting azimuth, or even beams, or possibly due to fracture of the underlying rock. But Mr. Busby has put me right on this point. They are relatively short and very irregular.

The concentric rings are difficult to understand. They are not due to an aerial current, but seem to rise upwards from the soil, judging by the unpleasant numbness in the receiving left leg on contacting them. No vertical conductor is present, unless we consider a rising column of radon gas to be such. Incidentally, a Busby solenoid apparently absorbs the concentric shells which are normally found around trees, iron posts, &c. In fact, I always set up a small portable solenoid before commencing any dowsing operation.

A solenoid also absorbs the beams projected from a vertical conductor (man excepted), but it is necessary to distinguish a true beam from a Tatwa current, as follows :—Set up an iron rod and walk round it clockwise on the circumference of a circle of, say, five paces radius, as usual. A twitch of the rod may occur at the eight points, N, NE, &c., provided that the body is kept radial to the centre. Although the eight lifts can be obtained simultaneously at times, it is usual to get them at the four cardinal points with, say, North and East, stronger at times than South and West, *i.e.*, two *absolutely independent* forces working at right angles to each other. These appear to work in pairs. At other times, lifts will only be obtained at the quarters. Mr. Maby calls this change of phase; which it certainly is, but it is a change of Tatwa phase, because the same lifts occur if the rod is removed. No *rémanence* here. The reason for this is obvious. The lifts are due to moving in a circular manner, each of the four cardinal Tatwas being contacted in turn at the moment when the body turns N, E, S and W, provided that one walks round radially to the centre. It must be understood that no beams have necessarily been contacted. The difficulty is to distinguish between a beam and a Tatwa.

* See *B.S.D.J.*, vi., 47, 161.

These currents can be quite easily contacted by turning round on one's axis with a vertically held motorscope and a Tatwa colour, when a series of pushes and pulls will be experienced in one or more directions. They can just as easily be attributed to radiating objects near by, but this erroneous impression can be quickly corrected if ordinary dowsing precautions be taken. Mr. H. George has kindly sent me the colours he finds for the Tatwa currents. They differ in one respect. He gives a shade of green, instead of blue-green, for the North Tatwa. Perhaps he has contacted static. I find green radiometers to be very active during days of static, and Captain Trinder's colour for electricity is green. However, well over ten thousand readings of coloured radiometers carried out during the last 12 months have not enabled me to prove the absolute timing of the Tatwas. But although it is not possible to set a watch by them, nevertheless I have found some extraordinary coincidences during steady summer weather. The currents appear to be very much stronger in granite country and, with concurrent radio-activity, tend to make dowsing for water a very difficult proposition. Another point to be noted is that the rings and conduction lines which compose the ovoid are shewn as one line for clearness. Each is really a "trio" in that at times two fainter lines will be found on each side of a centre line. A "trinity" appears to be quite a common factor in nature. Colonel Merrylees finds trios over water: refer *B.S.D.J.*, II, 15, 306.

Another characteristic of the ovoids is the "turn-in," which may be found eventually to be similar in form to those shown in Mager's Fig. 53 on page 258, *Water Diviners and their Methods*. Fig. 2 shews them to lie slightly West of South. I have also found them East of South, with which Mr. Busby agrees. Mr. Sarghel says that they exist on a line slightly East of North. This may be due to some difference in the radio-activity of certain rocks. Furthermore, the presence of these types of patterns, their resemblance to Mager's water pattern, and the well-known amplification of ordinary dowsing rays by radio-activity, may cause dowsers to fall into serious error; refer to a letter from Miss Penrose in *B.S.D.J.*, III, 24, 357.

A shifting azimuth is referred to in para. 3. Duclout's book gives a list of azimuths, taken from various authors, the azimuth for radio-activity being given as NE. Mr. Sarghel has written me that he finds the plane at 18 degrees East of North, and says that it does not shift with the sun. I have noticed a faint line which varies during the daytime between 25 degrees and 35 degrees NE. But there are several other faint radial lines at times, so that it might be better to wait until the Research Committee puts the Fundamental Ray on a firmer footing. It has been omitted from the sketch.

THE EVOLUTION OF DIVINING METHODS

BY N. MACBETH

In the course of the last twenty years or so, the uses to which the divining faculty have been put have increased so much that to-day they seem legion, and many people are a little at a loss to say whether they are following general methods of divining or special processes devised by a given expert. We can therefore be grateful to the Belgian review, *La Radiesthésie Pour Tous*, for having described the various "schools" of radiesthesia, as practised to-day on the Continent.

The first modern investigations were started in the field in the open air. Divining through the middle ages being concerned, it seems, with the finding of underground streams or ores; this was very natural. The "pioneers" in the twenties were Henry Mager, Armand Viré, each in turn President of the Paris Society, *L'Association des Amis de la Radiesthésie*. There was little special about the methods, and people's choices of compositions for rods and pendulums varied with personal tastes. The methods were the strict minimum and based on water diviners' methods of finding water below one's feet, and feeling the parallel line of "45 degrees" (the "Bishop's Rule"). Holding bottles of water as samples (witnesses), deriving knowledge from the "Serials" (number of gyrations for a pendulum or of rises and falls, viz., oscillations, for a rod) were useful additions.

From this beginning there arose five main streams of opinion regarding the physical approach to radiesthesia, and one other stream, the psychic or telepathic interpretation of phenomena, which the French have called the "mental" method. Let us summarise first the five physical streams of opinion, associating their authors.

The oldest originated from Mager's later studies, where the divining rod is the criterion, the rod being black, but tipped with white, or else in a selected colour. Then were used colours as selectors of substances' corresponding influences. Combinations of different coloured cards were used likewise as single witnesses. Search was for things below one's feet, and the subject was named sometimes "radio-physics." It was observed by the followers of Viré and Mager that results were disturbed by alterations in the world's magnetism and electricity effects, being like those known in wireless as due to "atmospherics."

Bouly, the Vicar of the village of Harelolot, near Boulogne, was the second investigator responsible for a "method." This led to the recognition of the sun's rays as a carrier wave capable of linking the diviner holding a given sample to the duplicate of

that sample, buried below ground, but many hundreds of yards to the north of the diviner; in fact, laterally to the operator, the submerged product sending its influence to the earth's surface and the influence from thence being linked up by the carrier with the sample held by the diviner. This was the beginning of "teleradiesthesia," the name now given to the divining of something which is not below the operator's detector, but some distance away laterally.

The third inventor of independently conceived processes was Turenne. He was the first to suggest openly that the diviner operated with the help of electro-magnetic waves of the kind known to science as composing waves of light, and of the radio-engineering kind. He analysed detected influences into horizontal and vertical components just as these are obtained through the alignment of wireless aerials. The electro-magnetic wave hypothesis having been announced, Turenne next devised means of producing "witnesses" where starch is impregnated in such manner as to provide a wave resonance with the detected substance. On the other hand, as amplifiers and also as waves capable of replacing the lines of force provided by the sun and by terrestrial magnetism, Turenne enclosed radio-active substances in a manner which provided directed waves acting as a carrier or support of a substance's influence so that there resulted corresponding fields of specifiable and so informative dimensions. In spite of its complication, this Turenne Method has had many adopters, especially among the scientifically trained. Exact results are obtained by many processes recommended. Turenne's philosophy has evolved to the point of submitting that all radiesthesia is due to waves resulting from atomic disintegration, and he has suggested that divinable influences be called "radio-disintegration."

Even the case of map-reading, which so many perform with success, but none can really explain, was explained by Turenne as due to the same cause, resonance between waves of similar or harmonic frequencies on the one hand on earth's surface, and on the other, on the map or a globe showing the world. The possibility of divining a person's health from vibrations associated with his blood is also, in Turenne's view, the operation of the Law of Similars in regard to vibrations associated with disintegration. Incidentally, Turenne is so far the only radiesthetic philosopher to submit any detailed theory for explaining map-reading.

Very like to the first pioneers, as regards technique, came the Abbé Mermet, with his "capital ray," fundamental rays (like those of Mager), and serial numbers. Mermet recommended using a pendulum with a point beneath; this, it may be said, makes Mermet technique concern the vertical type of wave

manifestation illustrated by the selective power of magnets in a vertical plane, as used by Turenne. Turenne has admitted the efficiency of selection through mere thought in a few cases, and so has approached the views of modern "mental" radiesthetists. Also some of his successes in map-reading relating to places thousands of miles distant prove the possibilities of "teleradiesthesia."

Henry de France has earned by his assiduous work the right to have another method named after him, although the employment of a length of pendulum suspension thread to suit a given product, in such a way that the pendulum so "regulated" became by itself a "witness," was the discovery of the Abbé Ferran (the third priest in this list of pioneers). The "regulating," it can be seen from Turenne's survey of divining technique, acts as a resonator just as a difference in the length of the physics pendulum's suspension results in corresponding frequency of oscillation.

Voillaume and Corrensen are two skilled exponents of the de France method; another whom the writer would mention on account of his successes in analyzing agricultural soils and plant suitabilities is Hector Mellin, who combined Ferran pendulum work with analysis of the Mager and Mermet fundamental rays. These three cannot be considered strictly as creators of processes. Teleradiesthesia is not practised by de France, who limits his observations to what is below his detector.

Lastly, we come in our review to the school of "mental radiesthesia," which is headed by Christophe and has a great many followers. Causes are there considered psychic or telepathic, and more related to phenomena like hypnosis. But even there a link with the purely physical aspects of dowsing is provided by Voillaume, a "physical" diviner, for he finds himself obliged to agree to the operation of "mental waves" or waves of thought. According to Christophe, all methods and the preference for any special form of detector are alike due to the user's mental approach, and are conventional in the sense that their employment gives results on account of the user's previous mental agreement. This he believes to be the case in both telluric radiesthesia, concerned with what is below the operator, and teleradiesthesia. Map-reading according to him, is in like manner successful only because the operator exercises psychic powers not governed by known laws of wave physics or the like. It is certainly true that many achievements of radiesthetists can be ascribed tentatively as yet only to mental, psychic or telepathic powers, but such hypothetical suggestions are not proofs.

At rock bottom, it may be said that even though the interpretation of causes may vary among the recognised experts of modern times, the fundamental phenomena resulting in detection and identification remain a part, one form or other, of man's ordinary, though developed, sensing powers.

PART THREE

IS THERE A FORCE UNKNOWN TO PHYSICS?

By B. ABDY COLLINS, C.I.E.

Report of a Lecture given on May 22nd, 1946

The lecture is an expansion of an article printed in the *Hibbert Journal*¹ for April, 1945, and is published here by the kind permission of the Editor.

The Chairman, in introducing the Lecturer, said :

" You may want to know what the subject of this lecture—A Force Unknown to Physics—has to do with *Radio-Perception*, and I must admit that the connection is by no means obvious.

" Most of us agree that there is a psychic element in many aspects of the dowser's art, and also that forces are apparent which are as yet unrecognised by the physicist : so to that extent we find something in common.

" I thought, therefore, that a lecture on the obscure forces which are an essential feature of many psychic phenomena, delivered by such an authority as Mr. Abdy Collins, would not be out of place, and I feel sure that we will find it of the greatest interest."

Telepathy and clairvoyance, ridiculed by the scientific world in the last century, now re-named " extra-sensory perception " (E.S.P. for short), or the "*psi* faculty," and demonstrated by the easily controllable and repeatable experimental work of Dr. Rhine and his associates, have become a respectable field for the parvenu science of psychology, and are looked on with tolerance by the learned at large.

To what is this change of outlook due ? First of all, I think, to a complete break with the past, signalled by the adoption of a new name which had no connection with the superstitions and controversies of the past, and the use of methods of attack which are now the commonplace of scientific research. The assessment of results by statistical and mathematical technique was something that impressed the modern man of science and gave him confidence. Secondly, to some extent, the fact that the experiments were carried out at, and with the cognisance of, a University in one of its departments, and the results, published in a journal* subsidised by it, gave them academic rank. But perhaps the main reason was that they could be easily repeated, like any other laboratory experiment, in accordance with a technique which was fully described. Attempts to repeat them were, in fact, made by a number of different persons and, eventually, with success, while the technique and control were discussed, criticised and improved. In America, at least, a whole literature dealing with them is now available.

Meanwhile, the physical type of psychic phenomena remained under a cloud. This was partly due to the greater scope for fraud which existed under the conditions alleged to be necessary

* *The Journal of Parapsychology* (Duke University).

for the production of such phenomena and partly, no doubt, to the frequent "exposures" and successful prosecutions of physical mediums. In addition, mediums claiming such powers were rare, and were usually unwilling to submit to satisfactory test conditions. Not infrequently, when tests could be arranged, the results were negative, or worse, or led to acute disagreement between those concerned. My object is to show that from the early days of psychical research there have been tests of this kind of phenomena carried out with positive results under conditions, satisfactory in their own opinion at any rate, by scientists of standing, and that now it seems probable that an advance can be made on lines similar to those followed by Dr. Rhine's card-guessing experiments.

The first investigations to which I shall refer are those carried out by Sir William Crookes during the years 1870 to 1874. As it happens, these, as well as those discussed later, are included in a review of recorded physical phenomena made by the present Lord Rayleigh, F.R.S., in his presidential address to the Society for Psychical Research in 1938. Lord Rayleigh is a well-known physicist, son of the discoverer of argon and other rare elements, who naturally took an interest in this branch of psychic phenomena and, after a study of all recorded cases of note in this country, as well as one published in France, summed up the evidence for and against in an impartial manner.

The results of Sir William Crookes' investigations may be found in a little book entitled *Researches into Spiritualism*,* which consists of reprints of articles from the *Quarterly Journal of Science*, of which he was editor, and *The Spiritualist*. It is with the former only that I am concerned, as they deal with experiments designed to prove whether there existed a force "inexplicable by any known natural laws." These experiments were conducted mainly with the assistance of the celebrated medium, Daniel Douglas Home, and, it appears, in the presence of Sir William Huggins, F.R.S., another eminent physicist of that time, a well-known Serjeant-at-law (Serjeant Cox), Sir William's brother, and his chemical assistant. Letters of attestation from the two first named are printed. The two Secretaries of the Royal Society were invited to be present, but refused. It is impossible to describe the experiments in detail, but a full account, with a description and drawings of the apparatus used, will be found in Sir William's little book.

In one case, a mahogany board, 36 inches long, 9½ inches wide and one inch thick, was supported at one end on a firm table and at the other by a spring balance with a self-registering index. Before the experiment commenced, the weight registered remained constant at 3lb. At first, Mr. Home placed his finger tips lightly

* Two Worlds Publishing Co., Manchester: 3/6.

on the extreme end of the board where it rested on the table, that is, at the end opposite to that resting on the balance. If Home had exercised any pressure on his end of the beam the index of the balance could only have shown a diminution of weight; instead, Dr. Huggins, watching the index of the balance, saw it descend first to 6½lb., and finally as low as 9lb. All this took place "in the evening in a large room lighted by gas." The publication of these results not unnaturally led to criticism of the apparatus and methods employed, and a fresh series were arranged, some with Mr. Home and others (and this is important) with a lady, not a professional medium (as Mr. Home was, though he never accepted direct payment), who is not named, with more and more delicate apparatus and an automatic record of the results in the form of graphs. In 1889, that is 17 years later, Sir William Crookes published in the *Proceedings* of the S.P.R. the detailed records of 11 sittings with Home, held on various dates in the years 1871-1872. The names of those present are given, the amount of light, &c., &c. On Monday, May 22nd, 1871, among others, Alfred Russel Wallace was one of the sitters. Experiments were carried out to measure by a spring balance with the accuracy of about ¼lb. variations in the weight of a table at the word of command. The table itself weighed normally 32lb., and when tilted by the pull of the balance caused a depression of 8lb. When the command "Be light" was given, it was tilted with a depression of scarcely half-a-pound. At the command "Be heavy" this changed to 20lb., all hands being placed under the table top. Similarly, when the whole table was lifted the balance showed 23lb. at the command "Be light," and 43lb. at the command "Be heavy." Similar results were obtained on May 9th. On both occasions the room (at Miss Douglas's house in South Audley Street) was lighted with four candles. These experiments were similar to those described by Dr. Crawford and several competent witnesses, which will be described later. Many other strange phenomena took place, including the levitation of the medium in good light, and the details of the experiments made with the mahogany board on four different occasions described above, are given. In the end, Sir William Crookes, after numerous experiments under varying conditions, believed that he had completely demonstrated the existence of a "psychic force," but the Royal Society refused to listen to his paper or to allow its publication. It has been said that the fact that Sir William lived for many years after 1871 and never published the results of any further experiments shows that he altered his opinions, but this is not so. He desisted from his attempts to convince his colleagues in the Royal Society because he realised it was hopeless, while he was extremely busy with his scientific, literary and business affairs, and found his psychic activities were damaging to them. He did not die till

1919, and to the end of his life he reiterated his belief in the correctness of his observations.

In his introduction to the records* of the eleven séances, written in 1889, Sir William Crookes explains that he was not satisfied with these notes, which were intended as a basis for a big book which was never written, but "at least they are accurate transcripts of facts which I hold of deep importance to science. Their publication will at any rate show that I have not changed my mind: that, on a dispassionate review of statements put forward by me nearly twenty years ago, I find nothing to retract or alter. I have discovered no flaw in the experiments I made or in the reasoning I based on them."† He adds that in most cases the notes were written—primarily for his own information—while the phenomena were actually going on—or expanded immediately after the seance from briefer notes taken at the time.

In his presidential address to the British Association at Bristol in 1898 he said: "Thirty years have passed since I published an account of experiments tending to show that outside our scientific knowledge there exists a Force exercised by intelligence differing from the ordinary intelligence common to mortals. I have nothing to retract. I adhere to my already published statements. Indeed, I might add much thereto." Lastly, in an interview published in the *International Psychic Gazette* in 1917 he repeated: "I have never had occasion to change my mind on the subject. I am perfectly satisfied with what I have said in earlier days. It is quite true that a connection has been set up between this world and the next."

Lord Rayleigh in his review says little or nothing about these experiments, as he appears mainly concerned with Sir William's experiences with another medium, Miss Cook, in whose presence a full-length figure constantly materialised. He merely says that "unexplained movements of a pivoted lever, obtained in the presence of D. D. Home, were recorded graphically on a smoked glass." In general, he says of this epoch: "Many striking facts had been recorded by apparently trustworthy witnesses. Their evidence has been discussed at great length by numerous critics, and the utmost has been done to shake it, but, on the whole, with limited success. . . . It is hard to see how anything that can be done in the future, however negative, can destroy the effect of these records." So far as I myself can see, the only thing that can be urged against them is that, with the exception of the 11 sittings mentioned above, the detailed notes which Sir William undoubtedly made at each sitting were not published as is usual in modern psychical research. It is understood that these notes and many of his photographic

† It is relevant to note that in his special sphere as a scientist, Crookes earned the admiration of the world for the accuracy of his work.

negatives were destroyed by his family after his death, under the idea that they would injure his scientific standing. Some of his negatives, however, have survived, and four of them were reproduced in *Psychic Science* in 1936. Another is reproduced as a paper cover to *Science and the Séance Room*, by Paul Miller (Psychic Press, 7/6), which I recommend to you all to read. He describes at some length the experiments carried out by Alfred Russel Wallace, Professors Hare and Mapes—both Americans—and Prof. Johann Zollner, Professor of Physics and Astronomy at Leipzig. Alfred Russel Wallace's published experiences hardly reach the level of scientific accuracy, while the work published in America and Germany I must regretfully leave aside for lack of time, but there is no doubt that the results obtained by Zollner, with the assistance of other well-known German scientists, deserve much more attention than they have hitherto received in this country.

The next recorded attempt at a scientific investigation of this force, that is, an attempt made by a scientist of standing with, under certain conditions, complete control of the proceedings and the ability to repeat the experiments as often as necessary, was that of the late Dr. Crawford, of Belfast. Lord Rayleigh devotes a great part of his address to these experiments, the results of which are recorded in three books (one posthumous) in the years 1919 to 1921.* The medium was Miss Kathleen Goligher, who sat in a circle mainly consisting of her own friends and relatives, but received no payments for the greater part of the time. The proceedings took place in what is described as a good red light. The chief phenomenon in which we are interested was the levitation of a table, weighing about 10lb., which was placed in the centre of the circle. Without anyone touching it, it was raised in the air about eight inches from the ground and kept there for about two or three minutes. The medium was seated in a chair on a weighing machine, and it was found that during the levitation she gained in weight about equal to the weight of the table. If a heavier table was used the same result was obtained, and if the weight became too great the medium was toppled off her chair. Dr. Crawford explained the result as due to an invisible cantilever, which projected from the body of the medium and supported the table. Dr. Crawford describes at length the precautions he took to prevent fraud, conscious or unconscious, and one thing appears certain, as Lord Lord Rayleigh points out, and that is that the raising of the table was somehow due to the medium and *not* to any other of the sitters. Either she had recourse to fraud or else she somehow

* *The Reality of Psychic Phenomena* (1917), *Experiments in Psychical Science* (1919), *The Psychic Structures at the Goligher Circle*, G. M. Watkins, 1921.

supplied the psychic force which lifted it. The late Dr. E. E. Fournier d'Albe, who visited Belfast after Dr. Crawford's sudden death (by his own hand) and conducted further experiments, mostly with entirely negative results, was convinced that she lifted it with her leg, but given what Lord Rayleigh describes as "the conscientious and accurate character of Dr. Crawford's observations and records," to which Dr. d'Albe bears testimony, this does not seem a possible explanation of his experiments. Anyone who studies Dr. Crawford's books will see that she could not have used any normal means to raise the table. A reader of Dr. Fournier d'Albe's book* might think that he had finally disposed of Dr. Crawford's records, but, as Lord Rayleigh points out, he does not discuss his work in detail. "Crawford's publications," he says, "contain a complete answer to Fournier's general objections, and I am unfavourably impressed by Fournier's failure to notice this."

The following quotation from the introduction to *Experiments in Psychical Science* shows that the theory of the medium lifting the table with one leg cannot explain the phenomena. "To wards the end of the seance . . . the psychic energy available . . . is at a maximum, and great forces are exerted. For instance, although a heavy man sits upon the table, it moves above the floor with great ease; or, the table being levitated, a strong man pushing from the top cannot depress it to the floor; . . . or the table's weight can be temporarily so much increased that it cannot be lifted . . . or, the table being turned upside down on the floor, cannot be raised by a strong upward pull on the legs, being apparently fastened to the floor."

In his first book, *The Reality of Psychic Phenomena*, Dr. Crawford explains the procedure in the circle at great length, and shows that fraud was impossible. The light was so good that he was able to see the hands of all present, and often, when the table was being levitated, he asked all present to raise their hands high in the air. He moved freely round the table between it and the sitters. He says he spent many hours in the circle, and worked under it when levitated and between it and the medium. He often felt her feet and legs, and found them absolutely still while the table was levitated and his instruments registering below it.

He also, in his notes, which Fournier d'Albe very fairly reproduces as an appendix to his report, describes how the medium came alone to his house, was searched by his wife, and dressed; and yet still ectoplasm emerged and was photographed. On several occasions she and all the members of the circle were examined and searched by doctors, male and female, before the sittings. On the 16th June, 1920, he records: "I got a lady

* *The Goligher Circle* by Dr. E. E. Fournier d'Albe (out of print).

doctor to come along. She stripped the medium before the seance and examined her clothing and body. There was nothing concealed. In the middle of the seance the doctor gave the medium a surprise overhaul, feeling up her legs and round her body—result negative. At the end of the seance she was medically examined again and her clothing subjected to close scrutiny—result negative. In spite of the above, the levitations were as strong as ever."

On April 8th, 1920, he notes: "I have carried out a series of tests by the sense of touch to try to discover from what part of the medium's body the stuff ultimately comes. While it is being ejected, the fleshy parts of her buttocks contract, and this also occurs on the fleshy parts round the outside and under her thighs. When the stuff is returning, the fleshy parts mentioned above can be felt to swell out gradually to normal."

Dr. Crawford also had a table made to prevent fraudulent levitation. It had only two legs, and had nearly all the surface cut away. In spite of all this, Fournier d'Albe says: "Dr. Crawford failed, in my opinion, to make sufficient allowances for the possibilities of co-operation and practice on the part of the medium and the circle." To my mind, this statement can only be described as ridiculous.

In spite of the strong power apparently exercised by some invisible structures, Dr. Crawford says they were "practically invisible in quite a good red light," and "if the hand is put through one of them, the only thing felt is a kind of disagreeable, cold, spore-like sensation, and the placing of the hand in its line generally breaks up the structure." This description makes Lord Rayleigh unable to accept Dr. Crawford's hypothesis of an invisible cantilever or rigid bracket. "It is almost self-contradictory to postulate a structure which is rigid to act as a cantilever and not rigid at all for the hand or a piece of wood to pass through it." It is mainly this difficulty, added to the fact that "Fournier does seem to have proved that the medium was on occasion fraudulent," that makes him unable to come to a definite finding one way or another, although he considers Crawford's records very satisfactory in point of detail and internal consistency, while he found, on inquiry, that he had impressed other scientific men very favourably. Sir William Barret, F.R.S., a physicist with very wide experience of psychic phenomena, who was present at some of the sittings, corroborated some of the phenomena, while other reliable witnesses say that the light which Dr. Fournier d'Albe found so poor was very bright at Dr. Crawford's experiments.

As it happens there is some additional evidence to show that Kate Goligher was, and probably still is, a genuine physical medium. Three articles by Mr. F. McStephenson, one of Dr. Crawford's collaborators, appeared in *Psychic Science* for July,

1936, and January and July, 1937, that is, nearly 20 years after Crawford's experiments. These describe some experiments made in conjunction with Mr. Donaldson, whom Miss Goligher married. Mr. Donaldson has an infra-red apparatus, which was described in *Psychic Science* for July, 1933, and he took a series of photographs of his wife under test conditions, which Mr. Stephenson describes. These photographs, which are published in the numbers named, show the development of ectoplasm in a convincing manner and are, I think, a further and final answer to Fournier d'Albe's criticism. A note by the editor also stated that Mr. J. B. McIndoe published an article in *The Two Worlds* of June 12th, 1937, describing a séance held on April 10th with the same medium, illustrated by a photograph showing an even larger ectoplasmic mass.

The third series of scientific experiments to determine the reality of this force, to which Lord Rayleigh also devoted several pages of his address, were those carried out by Dr. Eugen Osty, Director of the Institut Metapsychique International, with his son Marcel, in the presence of the well-known medium, Rudi Schneider. They took place at the Institute in Paris, and were published in *Les Pouvoirs Inconnus de l'Esprit sur la Matière* in 1932. It was alleged that objects at a distance from this medium were moved without physical contact with him. In order to make certain that this could not be due to any unconscious movement of the medium after evading control, Dr. Osty used an infra-red ray as a development of the system of burglar control by means of a light ray, which, when intercepted, rings a bell. The infra-red ray was so arranged that it guarded the object (whether a flower, handkerchief, or what not) which was to be moved from a distance, and yet did not interfere with the darkness which was demanded by the medium as the condition of the séance. If it was intercepted by anybody, or thing, trying to approach the object, a bell would ring.

During the séances the bell did ring frequently when the medium purported to be in trance, and rang sometimes for half-a-minute or more. Flashlight photographs taken while the bell was ringing showed "the medium sitting in his usual hunched-up position with his head sunk forward, his hands held, and his knees between the knees of the controller." Nothing was to be seen in the path of the infra-red beam.

Although there did appear to be something crossing, or attempting to cross the path of the beam towards the objects to be moved, they were, in fact, seldom moved, and it was decided to alter the scope of the experiments so as to try and ascertain the nature of whatever it was that obscured the beam. The bell was replaced by a galvanometer with a photographic recording drum which would give a continuous graph of the reflections, recording the intensity and duration of the obscurations. It eventually became

evident that the galvanometer "moved in sympathy with the loud and rapid breathing of the entranced medium." In other words, "the obscuring action was connected, directly or indirectly, with the medium's muscular processes." The latter were also recorded, and the frequency relation was verified. For instance, if the infra-red absorption had a frequency of 5 per second, the breathing had a frequency of 2.5 per second.

Lord Rayleigh considers that MM. Osty's graphs are one of the most valuable contributions ever made to the subject, and that all the attempts at destructive criticism of the experiments have failed. As in the case of Dr. Fournier d'Albe's criticisms of Dr. Crawford's work, many of them are completely answered in advance by the original publication. The experiments, in fact, are in themselves satisfactory, so far as they go. "What is wanted is independent repetition of Osty's work."

Given, however, that the facts are correct, Lord Rayleigh, as in the case of Dr. Crawford's hypothesis, sees a serious scientific difficulty when he considers the properties which Dr. Osty finds in the invisible substance. "So far as we may claim," he says, "to know anything about the action of light, I think we may say that it cannot modify matter without being absorbed in the process. . . . Dr. Osty's whole investigation depends on the fact that infra-red rays are absorbed by the invisible substance." But "the fact that the 'substance' is 'invisible' shows that it does not absorb ordinary visual light. If it did so, *e.g.*, as iodine vapour does, it could not, of course, be visible, but would be seen dark on a luminous background. Or if it absorbed by lateral scattering . . . it would itself appear as a bright cloud when illuminated. But if the substance does not absorb visible light, how can it be that visible light destroys it or, at all events, makes it ineffective (as it appears to do)? Until this paradox is cleared up, it cannot be said that we are standing on firm ground."

It is a notable fact that a physicist of high standing finds that, on the supposition that the facts claim to be established by Crawford and Osty are correct, the theories advanced to explain them will not square with the hypothesis on which modern physics are based. In other words, we have come up against a force unknown to physics. The facts, however, are not yet clearly established, because the experimenters had not complete control of the conditions of their experiments (or perhaps we should say that the conditions necessary for the phenomena, *e.g.*, darkness or redlight make satisfactory control difficult), and they are not easily repeatable by others. Their work, however, shows that better conditions are not impossible of attainment.

It is at this stage that, some years after Lord Rayleigh's review, in fact, in March, 1943, Dr. Rhine and his collaborators announced a new type of experiment somewhat similar to their car-guessing series, which tended to show that mind, by some means or other,

can influence matter. In the March number of the *Journal of Parapsychology* he narrates how, nine years ago, while the card-guessing experiments were in their infancy, a young man whom he describes as an "amateur gambler" came into his laboratory at Duke University. He was naturally interested in the laws of chance, and told the experimenters that he and his friends believed that by means of concentration they could influence the fall of dice so as to obtain a larger proportion of the high numbers which they usually desired. Instead of dismissing this claim as ridiculous, Dr. Rhine and his associates started to try for themselves, with the result that, after nine years of work (during which nothing was published), they believe they can show that a suitable subject can obtain a larger number of high or low throws (as he may try) than could normally be expected.

The results of a large number of experiments have been published. The simplest type consists of throws, by mechanical means, of two ordinary dice, when the subject tries to get scores of eight or over. There are thirty-six possible combinations of dice faces, and, except in the case of "doubles," there are two combinations for each result, e.g., $6+2=8$ may be obtained by 6 on dice A and 2 on dice B, or *vice versa*. It will be found that 15 out of 36 combinations, or five out of twelve, are eight or better. The experiments were conducted in runs of twelve, and in each of these we should expect, on the average, 5 throws of eight or better, 5 of six or worse, and 2 of seven. In the early runs of each sitting, the subject often succeeded in obtaining, on the average, six throws of eight or better. Later on, there was always a decline, though never so as to fall below five successes (this in itself is very remarkable), and there was usually a recovery at the end. The whole result was constantly so far above chance as to preclude the possibility of a chance result. Control runs and conscious attempts to produce a low score proved that the results were not due to faulty dice or other "natural" causes.

By now there is a very large series on record, carried out by a number of independent experimenters, and various alterations have been made in the technique. Curiously enough, in view of the conditions usually demanded for psychical phenomena, red light or darkness seems unfavourable: better results are obtained in bright light, though this has not been definitely established yet. To cut a long story short, after nine years of experimenting Dr. Rhine and his associates are confident that they can now demonstrate scientifically the power of the mind over matter just as clearly as they seem to have demonstrated the existence of extra-sensory perception. Here, too, they have invented a new name, psychokinesis, or PK for short. These are not, of course, the first published experiments designed for this purpose. Dr. Fakurai, a professor of Tokio University, in his book *Clairvoyance and Thoughtography*, published in 1931, recorded

many experiments with different mediums during the years 1910-11, in which a mental picture, usually of a Chinese ideograph, was impressed on a photographic film in a sealed box. The film, on being developed, showed the picture on which the medium had concentrated. The results were very striking, and cost him his fellowship, owing to the displeasure of his orthodox colleagues, but attempts to duplicate them have, I believe, been unsuccessful, in America and elsewhere. The advantage of the dice-throwing technique is that anyone, scientist or not, can easily repeat it himself as often as he likes. He has only to find a suitable subject, and, according to Dr. Rhine, suitable subjects are not uncommon.

Will these simple experiments at last convince the physicist and the physiologist that mind can influence matter? In this strange way will the age-long controversies of the philosophers be resolved? Time alone will show. It seems, however, that the force or power exerted in this way, if indeed any force or power is exerted, is something different from the force manifested in the experiments of Crookes, Crawford and Osty. At first sight, it might seem that the dice results were not dissimilar from Home's deflection of the mahogany plank in Crookes' laboratory, but we are told that Home was conscious of an outrush of power, and unless he was conscious of it no results were obtained. Dr. Rhine's subjects have no such experience, though sometimes they may feel in a better mood than others. However, the fall of the dice may convince the scientists that there is a force or influence unknown to them, and induce them, as Lord Rayleigh suggested, to try to repeat the work of Crookes and his successors under more satisfactory conditions.

In the discussion after the lecture Mrs. Kingsley Tarpey remarked that whilst she was lecturing in Ireland during the last year of the war of 1914-18 she obtained an introduction to Dr. Crawford and attended a séance of the Goligher circle: "The room in which the séance was held was a bare attic with brick walls and no draperies at all. It was lit by a gas light under a red shade and everything was clearly visible. The sitters were grouped round a small table, Kathleen at one end of the oval, myself, outside the circle, at the other. No one was touching the table. I could see the girl's feet about a foot distant from the table. She was in a trance. I saw and heard a full programme of knocks and telekinetic movements. At the end I was invited into the circle and asked to try to lift the table. It was firmly held fast to the floor. I was then asked to lean my weight on it to prevent it from rising. It bounced up and down until my arms were tired. Finally, I sat upon it and was gently but firmly pushed out of the circle. I thought the Golighers were simple, honest, kindly people."

DISTANT PERCEPTION

By "INYOSI"

It is fairly obvious that there is more than the purely physical aspect of radio-perception to be studied and demonstrated to be within natural law if it is to be shown to have a truly

scientific foundation. The physical side of the matter has been ably demonstrated by Messrs. Maby and Franklin in their published work. Mr. Maby, in various articles which have appeared, has realised that there is another aspect of it which is not readily explained. Distant perception and its peculiar selectiveness, while being a genuine fact, is difficult of explanation. The writer has had experiences and successes which appear to point to a function of the subjective mind being brought into play. There appears to be a realm of the mind in which space does not seem to exist. Plans have been received of areas which have never been seen, with requests to mark water streams, &c., on them; this has been done and letters have come expressing amazement at their accuracy. This, of course, has been the experience of others.

Then, again, letters have been received requesting information relating to geological formations, especially quartz reefs, without a plan, merely that a shaft was being put down. Distant surveys have been carried out in these cases, which proved to be astonishingly correct. The tracing of individuals, and their movements, at a distance of many miles, has been checked up and found correct. The finding of the location of enemy submarines during the war was done with unfortunate results to the said submarines. The location of radio-transmitters being used for nefarious purposes has been very successful; the writer has been informed that a report relating to 28 of these which was sent to the proper authority proved to be at least 80 per cent. correct. The following of the movements of sea raiders during the earlier part of the war and the plotting of them down on maps were shown by subsequent events to be substantially correct.

Using a wire angle rod, the method employed when dowsing from a distance for water, or other, objectives, with the aid of a map, or plan, has been to take an area of actual ground which was convenient, and, as it were, give a command to the perceptive, subjective faculty to treat it as the ground represented by the plan, or map, and work on it just as though it were the actual site, properly orienting oneself. Strange as it may seem, this system works, as has been proved by the letters received from those who sent the plans or maps. It is natural to think that any water, &c., which might underlie the area taken to work on would interfere with the result, but experience seems to show that such influences are eliminated for the time being, possibly because one is working on what may be termed a different plane. On one occasion, about eight sites were picked from a distance of over 100 miles, and a rough chart made. Later, when visiting the area, the chart was found to be correct. It was thought that perhaps some form of mental transference might have something to do with the charting down from a distance, as the points were set down for an individual living in the area at

the time who was well known. It was thought that the individual might have unconsciously perceived these points, and that there had been some interplay between subjective minds. This idea, however, was upset by the fact that one of these points was more than half a mile from the others, separated by rising country, and the individual revealed that he had not been on that side of the hill at any time, and so could not have any knowledge of it, conscious or otherwise.

When looking for individuals, submarines, raiders, transmitters, &c., the method has been fundamentally the same, except that a compass for direction, the counting up of units of distance until the rod indicates arrival at the point, and a map for plotting these findings are substituted for the convenient area of ground.

It takes a very great deal of practice and checking up to arrive at a sufficient degree of accuracy in this type of perception work, and to develop true confidence. Inhibitions must be avoided, as well as doubt of one's ability to do the job. One must not assume too much too quickly, as that leads to failure with the development of doubt and other mental attitudes which are fatal to success.

NOTES AND NEWS

The first open-air meeting to take place after the war was held on Saturday, July 20th, at Eridge Castle, by the kind invitation of the Marquess and Marchioness of Abergavenny, who not only made us free of the whole of their beautiful gardens but most hospitably entertained us to tea.

The weather was not as kind as it might have been, as the afternoon was sunless and somewhat chilly, but this in no way detracted from the enjoyment we took in spending a few hours in such peaceful and dignified surroundings.

Between 50 and 60 people arrived by car or train during the afternoon, and for the most part spent their time in wandering round the gardens and admiring the magnificent borders and trees.

A spring, conveniently situated below the lawn in front of the Castle, was first discovered by Mr. Quain, of Sowerby Bridge, using a steel tape bent into a curve as his indicator. Other members followed his example using their own methods, including Mr. J. A. Clarke, who further demonstrated the obscure phenomenon of "vicarious" dowsing, several instances of which have been reported in the *Journal*. All this led to much discussion and demonstration, which was probably of more value than the tests which were a feature of most of our pre-war meetings.

The meeting was an undoubted success, and formed a very pleasant interlude in what, for many of us, is a somewhat drab post-war existence.

By kind permission of Mr. Eric Gillett, the following episode, which occurred in the spring of 1812, is reprinted from that interesting book, *Elizabeth Ham by Herself, 1783-1820*:—

" We visited, too, at the House of a gentleman who was the Proprietor of some Calemine mines on the Mendip Hills. The conversation one day turned on the method of discovering metal called in this part of the country 'a-dousing' or 'dousing.' Query, was the word in Walter Scott's mind when he named Dousterswivel, and, as I was rather curious on the subject, a party was made to visit the mines, as one of Mr. Hughes' employees was a celebrated, or I should rather say a successful, adouser. Either from weather or from some other cause, the party did not take place until after I left Cross; but my aunt wrote to me to say that the experiment had been perfect, the man invariably showing under which hat a watch, or purse was hidden, and which hand held money. Every one of the party tried in turn, but the hazel twig remained immovable till Mrs. Parker took the twigs between her fingers, when, to her almost fright, the end of the spur bent down to indicate where the metal lay."

* * * *

Some papers about his researches have recently been received from Professor Dr. Samuel Aysoy, of the Faculty of Veterinary Medicine at Ankara, who has for some years been well known for his study of the effect of ionisation on plants and trees.

In 1936 he published a book called *Radio-Biology*, dealing with radiation from plants and animals, and containing a description of an instrument he had invented for diagnostic purposes.

He has recently published a further work called *Wonders of Nature—New Horizons in Medicine*.

Both books are, of course, written in the Professor's native language.

* * * *

M. Pierre Cody, of whose work on Earth Rays some account was published in *B.S.D.J.*, IV, 27, 96, has, we are glad to say, survived the war, and has sent us some notes on experiments carried out during the war years on the effect of radiation on the growth of plants.

Observations made at the Institute of Geology at Rennes in 1941, with the help of Professor Milon, Dean of the Faculty of Sciences, showed that irradiation from the soil, detected by a Curie electroscope and a Cody capsule of acti-carbon, which adversely affected the growth of a small patch in the middle of a much larger area of St. John's Wort, gradually diminished during September, until on October 5th it had entirely disappeared, whilst the patch of St. John's Wort recovered its health. This decrease in radiation from the soil, concurrently with lowering of temperature and persistent rain, was in accordance with many previous observations.

Experiments carried out in collaboration with Dr. Bocage, D.I.H.P., in 1942 and 1943, on four samples of grains of wheat, namely, (1) normal, (2) had been in contact with oxide of uranium, (3) and (4) previously exposed to earth rays in two different rooms, were somewhat inconclusive. They appeared to indicate increased rates of germination in the case of (2) and (3), but showed very definite sterilisation in the case of (4), of which not a single seed germinated.

It may be noted that Mme Curie in her treatise on Radioactivity, published in 1935, stated that seeds submitted to relatively intense irradiation fail to germinate or produce weak plants, while moderate irradiation has a stimulating effect.

* * * *

According to the *Sussex Express and County Herald* of 12th July, 1946, some jewellery and money contained in two coffee tins, which had been buried in a garden at Barcombe, near Lewes, in September, 1940, were located by a water diviner, Mr. Albert King, the local blacksmith. He had never previously divined for anything but water.

REVIEWS

EXPERIMENTAL INVESTIGATIONS WITH THE FIXED PENDULUM NEAR ANIMALS, FROM 1936-1940

By Dr. Med. Vet. W. Laue, Hermsdorf-Kynast im Riesengebirge

Dr. Laue has made experiments with the fixed pendulum over anaesthetised animals. After anaesthetising, he opened the chest of the animal so that the heartbeats and the circulation of the blood could be observed. He found that a fixed pendulum 13gm. in weight, suspended 13cm. from the heart of the animal, began gradually to oscillate.

He admits that, while the narcotised animal still lives, the usual objections are valid against inferences drawn from the swinging of a fixed pendulum, *e.g.*, the motion of the heart producing minute draughts, convection currents and the like; all these, he says, may be explained by external physical means, but, he continues, "how is it physically explicable that the movements of the fixed pendulum still persist when death and the rigidity of death have occurred in the animal, so that at least the objections of heat radiation, of air currents from the beating heart, from disquiet, which is also to be found during narcosis, and other influences are no longer tenable?"

He also refers to observations by E. Konrad Müller, electrical engineer of Zürich, Professor D. A. Scheunert, Director of the Veterinary-Physiological Institute of the University of Leipzig,

Professor Dr. Reich of the Electrical Institute of the University of Göttingen, Christopher Dietrich, who did experiments in 1938, and several others of his correspondents.

He is convinced that his experimental investigations lead to similar conclusions as those of Professor Dr. Busse-Grawitz, who proves that dried tissue can still produce new cells after five thousand years, and Professor Dr. Busse deduces from this that the cells of a dead organism exist in a kind of dormancy." Laue continues, "Why should not the cells which exist in a state of dormancy set the fixed pendulum into oscillation?"

A CONTRIBUTION TOWARDS FURTHER CLARIFICATION OF THE RADIATION FROM BODIES FIRST PHOTO- GRAPHED BY ME

By the late Martha Burkhardt, Superintendent of the Gertrud-Oskar Boys' Home (Nieder-Schreiberhau im Riesengebirge)

This short paper mentions that the authoress has had an opinion from Dr. Liesegang, Director of the Scientific Institute for Colloid Investigation, to whom the German Patent Office had referred her observations. He is of opinion that the images formed are not due to gas emanations, but is unable to give an opinion as to what the rays may be that have caused these images on the plate.

She describes photographs taken by Tomasetti, an Italian, according to the method used by her and Dr. Laue, and described by the latter at the Congress in Liège.

She realises that much more work must be done before her results can be finally recognised. It is regrettable that such an honest worker can no longer take part in the development of her subject.

C.S.T.

TURENNE'S PUBLICATIONS, 1931-1935

Four volumes, in French, which Turenne, Engineer E.C.P., the leader of physical approach to divining problems, wrote between 1930 and 1934 are now in the B.S.D. Library. In the first, the Green Volume of 1931 (189 pages), the basic principles connected with the services of carrier waves as the means of all detection are outlined by the aid of experiments which the reader is asked to perform. The carriers are shown to be influences causing oscillation in the pendulum; evidence is provided to support a belief that the forces proper to terrestrial magnetism, in North-South and also in East-West vertical planes, are of the same nature. Divining from a distance (nowadays called *téléradiesthésie* on the Continent) has been shown to depend on the aid of terrestrial magnetism in the four cardinal directions.

This volume shows the beginning of investigations into the components of divined phenomena, which are recognisable as

horizontal waves similar to those due to a presence of horizontal straight magnets, and as vertical waves similar to those due to a presence of either vertical magnets or of alternating electric current affecting the diviner.

The pattern of a magnet's field is analyzed in what is a horizontal wave field, with polar characteristics differing north from south, and also in the lines of force which influence the diviner just like electric currents. How the diviner responds to the entirely different waves of sound is shown likewise in this volume.

A separate work, *La Lumière et les Couleurs* (the Rose Volume of 1931), describes experiments on wave fields attributable solely to light which is represented by coloured ribbons. A carrier wave provided by terrestrial magnetism is employed, a "pendular" wave field coming from coloured substances, when there is the aid of a rule or tape capable of intensifying terrestrial magnetism in a given direction (N-S or E-W). The dimension of the field is definitely relative to the wave length (and frequency) of the colour. The reader is, moreover, shown how to synthetise white, as well as to divide a field due to white into its components: violet, indigo, blue, green, yellow, orange and red.

By similar methods, it is found that a lightless black also produces an influence recognizable as a horizontal wave. On the other hand, white is detectable as a vertical wave of the electric, or one could say, electro-magnetic kind.

In 1933 it was possible for waves attributable to disease to be briefly described in his "Orange Volume," where experiments help the reader to learn about the difference between vertical waves capable of penetration and non-penetrating horizontal waves of "pendular" fields mentioned above. Experiment had by then begun which showed that all kinds of matter produced (usually horizontal) waves which could be grouped as harmonics of light's seven colours: red, orange, yellow, green, blue, indigo and violet; and the suggestion could be made that a disease was usually treated by a medicine producing the same colour harmonics as did the disease itself. From this could follow a radiesthetically based hypothesis that even internally taken remedies heal by virtue of wave-creating properties acting upon the diseased body cells. This volume of 1933 does not provide a course of instruction in medical uses of radiesthesia, but it is only an incentive to study from other sources. The book has helped, undoubtedly, to convert many of the hundred or more French and Belgian doctors to the use of pendulum or rod as part of diagnosis.

In the "Grey Volume" of 1934, called *Water, Zoology and Botany*, Turenne tabulates the length of pendulum wave fields found for the chemical elements. The lengths do not follow the Mendeleef order known to chemists, but rather indicate degrees of molecular vibration, a fact illustrated by length being

varied by heat applied to copper. It was then shown that an association of colloidal radium could produce much smaller fields for all kinds of matter, which could be classified also as harmonics of the seven elementary colours. These lists are made by means of a rule, 1m.55 (nearly 6ft. long). Though Turenne's block of colloidal radium salts was first used, it has been found that a previously marked rule or tape will serve for some of the forms of analysis when the extra energy or stimulation of the field is provided by sunlight or by a horse-shoe magnet. (Lecourbe's medical analysis is a development of results connected solely with intensification based on the action of light waves, whereas Valette and others make use of the magnet's properties).

On this rule, 1m.55 long, the grouping, as regards the chemical elements, was found to follow the Mendeleeff Order, and so the apparatus could be styled an "Atomic Rule." Here was also a means of revealing the energies of different vegetables and also the greater suitability of those which had sympathies with the blues and violets; the poisonous vegetables were detectable as producing vertical wave harmonics of the waves of red.

Turenne's "Yellow Volume" of 1935, *Minerals, Waves of Form Map Reading*, leads much farther, showing that whilst pendular wave-fields in horizontal waves correspond to crystalline qualities of matter, vertical waves (detected in vertical planes) can provide other no less interesting analyses related to disintegration, the waves being like those of man-created radio waves. The vertical wave qualities are brought out mainly through the screening properties of a circle drawn on paper and intensification due to Turenne's radium block laid within a circle, drawn on white paper.

The results provide an analysis of matter in terms of the waves shared by chemical elements and by different colours of the rainbow. Operations there conducted permit an analysis of influences due to any chemical compound laid within the circle or "Disc" (animal, including bacteria, plant, mineral). Tests suggested and described to the reader make it clear that the same wave frequencies (or vibrations) are shared by substances in different branches of creation; and this gives us the clue to the explanation of the fact, known to diviners since Mager's days, that underground water can be detected not only with the help of a sample of water, but even by the selective or syntonising value of a "sample" of violet ribbon or even a lump of sugar used as a witness touching the dowser's finger tips or his thumb pad.

A lengthy description of wave effects produced by mere dots or parallel dashes shows how even these produce vibrations which can act as "witnesses" for revealing solid matter which possesses similar vibrations affecting the dowser; the prime cause being earth's magnetism since the dots must be orientated.

Space in this volume is devoted to the examination of detectors used long ago by the Chinese and the American Indians. A chapter follows on Turenne's theories in favour of "radio-disintegration"; waves appear according to the form dictated by the disintegration of matter. The book closes with photographs of pearls, his radium block, magnets, and a diviner's radio-active hands, taken in the dark. The photographs were made by placing the things inside a box covered with paper in "middle-green" and then applying ultra violet rays to the outside of the box. The rays of ultra-violet, it is known, have no penetration, so the taking of photographs within the box must be attributed to the penetrating properties of waves produced by the middle-green when it has ultra-violet non-penetrating waves applied to the green paper; the things contained in the lightless box were responsible for the actual shades of light and dark corresponding to their structure. A real pearl "picture" differs from one of a cultured pearl. The volume covers 250 pages.

Even those who know no branch of physics will find interest in Turenne's various analyses. People who wish to learn more about Turenne can, of course, consult his British Correspondent.

N. McB.

LA RADIESTHÉSIE

By Alfred Valette

Printed by C. Vollot, 5 Ave Dumont-d'Urville, Algiers

An engineer with twenty years' divining experience (in 1939 when he wrote the above book), and eight of experience as an adviser on health, with treatments based solely on effects of colour which are seen or worn on the body, M. Valette has written a very readable work.

After a few chapters dealing with his general experience, M. Valette deals with the dowsing methods he uses when looking for water: He is a follower of Christophe, using mental abstraction as the forerunner to the finding of water by means of a weight of lead; he swings his weight forward gently to and fro, and gyration sets in as soon as he is over a stream. His assessment of quantity is based on mental conventions, as also are his estimates of depth. When describing an experience of comparing his quantity assessment with that given by an Algerian native, he related that his findings and those of the Algerian were found to be the same as soon as he had learned that where he himself was counting by the hectolitre (22 gallons), the native had measured in units of the quantity drunk daily by his camel!

In the last part of the book much space is devoted to the question whether the doctors really had the right to attack colour therapists on the ground of illegally practising medicine. (In French territory only hospital-trained doctors may, by the

law, practise the art of medicine.) In the work the reader will not find much of medical value, for diagnosis is not discussed with any detail before page 161, and the subject is dropped in page 183. This part of the book seems to be aimed less at teaching than at encouraging the reader to ask the author for his personal advice on questions of health. The text shows, however, that Valette differentiates between diseases belonging to the same atomic "h" group (Turenne) or the same colour harmonic group (Lecourbe) by means of heterodynes produced through superimposing one of five colours in turn. In this work his method is more physical than mental.

By way of illustrating the effects of colours, Valette records (p. 174) a concrete example related to b. Koch, one of the bacteria associated with tuberculosis. That a certain shade of dark green, he says, is in resonance with b. Koch is shown in the following way: Cover a culture of b. Koch (in its petri dish) with this green (supposedly a green card or cloth), and then all signs of virulence ceases. As an example of what the reviewer has described as a heterodyne effect, Valette says: "When taking the radiation of a person and finding 55cms." (the dark green ring's distance from the patient's finger) "if I find the pendulum stop in resonance also with black, the person examined is, without doubt, suffering from haemorrhoids."

Valette makes a choice of 84 colour tones as part of his corrective treatment. He writes as if the colour waves acted on the patient's skin. There are other radiesthetists who claim that only the waves of white, middle green and a certain infra-red are capable of penetration. The reviewer suggests that possibly the results claimed for colour therapy by Valette and others are due to penetration as far as the central nervous system by an indirect route, i.e., through the human body's radio-magnetic receptive points. These, of course, include the retina. This may be the basis of the Colour Therapy given by the London Deighton-Patmore light globes and by Mrs. Kingsley Tarpey's pictures.

N. McB.

RADIESTHÉSIE POUR TOUS

The year is seeing the appearance of new diviners' journals and the revival of diviners' societies in France and Belgium. The first journal to appear is the *Radiesthésie Pour Tous*, of Brussels, whose Editor is M. Servranx. This is a monthly review devoted to Radiesthesia and Teleradiesthesia. The two terms can be taken as meaning divining what is directly below the hand and, on the other hand, detecting what is some distance away laterally, whether the distance be one of a few feet or of any number of yards or miles.

Much interesting information is contained in the first five numbers we have received, and it is well worth subscribing to the

publication if one has a command of the French language. The subscription rate quoted for six issues is Fr.B. 150 (Address: 11 rue Fossé-aux-Loups). A perusal of this review makes it plain that the radiesthetists of France and Belgium—perhaps of other countries *outré-Manche*—have divided into two more or less separate camps. The “mental” operators (whom we might prefer to call “psychics”) do not make use of material sample-witnesses. On the other hand, the physical workers try to connect their work closely with ordinary wave physics and make use of either colour resonances or material substances to insure the recognition of material counterparts. It is often difficult (as British dowisers know) for the dividing line between the two sorts of divining to be drawn.

In *Radiesthésie Pour Tous* a compromise seems to have been adopted, the staff writing about both the psychic and the physical aspects in separate articles. From the following titles of subjects dealt with in the review, the reader will gain an insight into the kind of information published: No. 1—Is white or brown bread better?—Christophe's Mental Selections—The Choice of the Best Pendulum—Mental Analysis of the Human Mind—Human Magnetism for Training the Divining Power—Should Charms be Believed in?—A Home-made Amplifier—Following Football by Pendulum; No. 2—What a Boy Scout Diviner Should Know—How to Relax so as to Divine Better—The Pendulum Shows a Mixed Diet to be Man's Normal—Can one Neutralise Harmful Earth Rays?—Success and Failure—The Pendulum foreboding Accidents.

One article merits description by a separate paragraph: A Review of Methods: Bouly with samples, Mager's atomic rays due to light; Turenne's making effects easier to detect on account of supplying additional radio-activity, and identification more exact through dividing detected waves into three possible components, and through his specially prepared sample-witness; The methods of Mermet and of France closely related to those of Bouly and of Turenne, with effects due to the action of terrestrial magnetism; the entirely different approach to the problem by Christophe; and lastly, the work of Voillaume, which tends to prove that purely mental operations of diviners are in some way under the sway of the laws related to electro-magnetic waves. Servranx, author of this article, concludes by saying that in the circumstances his review must follow progress of both mental and non-mental radiesthesia since the dividing line is so fine.

This number also discusses diet revealed by the Lesourd Tape 1 metre 60 long (which is a form of Turenne's Atomic Rule); a comparison is made with the advice of Doctor Marcel Vérut.

In No. 3 one finds further advice on the choice of a pendulum, discussions on map-reading, counting oscillations, the “mental”

in "Pendulum Astrology." There is more on "mental" analysis of a patient. The Bouly method is explained at greater length. No. 4—Careers in which Divining can be used—How Divining Answers the Daily Questions of a Home—Betting on Horses with the Additional Help of a Pendulum—An article by Christophe supporting his claims in favour of "mental radiesthesia"—Beauty Culture—Human Magnetism the Servant of Diviners. In Nos. 4 and 5 the subject matter is along the same lines.

The editorial matter in the *Radiesthésie Pour Tous* seems to indicate the tendency of diviners on the Continent to concentrate on "indoor" uses of divining, leaving dowsing for water or metals to specialised surveyors or geologists.

N. McB.

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- TABER, W., Matchyns, Rivenhall, Witham, Essex.
- TALBOT, Mrs. N., Hadley House, Ranchi, Bihar, India.
- TANDAN, P. D., Tandan's Fruit Laboratory, Quetta, Baluchistan.
- TARPEY, Mrs. KINGSLEY, 35 Downside Crescent, Belsize Park, N.W.3.
- TAVERNER, J. L., 61 Wellesley Road, W. Croydon.
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- *THOMAS, R. S., Shenstone, Upper Castra, Tasmania.
- THOMAS, W. E., 40 Margaret Street, Manly, N.S.W.
- *THOMSON, Commander RODNEY, D.S.C., R.N., Elmhurst, Tadley, Hants.
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- *TRINDER, Captain W. H., Job's Mill, Crockerton Warminster, Wilts.
- *TRINGHAM, Canon H. J. F., M.A., Long Cross Vicarage, Chertsey, Surrey.
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- TURNER, G. T., 15 Carlton Avenue, Kenton, Harrow.
- TURNER, J. STENSON, The Chase, Greenhill, near Coalville, Leicestershire.
- *TWEED, Lieut.-Colonel J. R. H., M.C., M.B.E., 1/19 Hyderabad Regiment, Agra, India.
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UTTLEY, H., Midhope Reservoir, Stocksbridge, near Sheffield.

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WATSON, G. C., Edendale, Hartley, S. Rhodesia.
WATSON, J., MacGregor House, 127 Tulse Hill, S.W.2.
WATSON, Dr. T. T. B., 58 Oxford Gardens, W.10.
WATTS, K., B.Sc., Cumberland House, Worcester Road, Malvern, Worcs.
*WEATHERBY, Miss K. E., Bastide Blanche, Ramatuelle, Var, France.
WEEKS, Miss N. G., Mount Vernon, Sotwell, Wallingford, Berks.
WELCH, Mrs. MALCOLM, Stedham Mill, Midhurst, Sussex.
WESTLAKE, A. T., B.A., M.B., B.Chir., M.R.C.S., L.R.C.P., Sandy Balls, Godshill, Fordingbridge, Hants.
WETHERED, V. D., B.Sc., 2 Kidderpore Gardens, N.W.3.
WETTON, J. L., 42 Durdham Park, Redland, Bristol 6.
*WEYLER-MACKENNA, NORMAN A., F.C.P., Argentine.
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*WIGELSWORTH, Dr. J. W., 1708 Oak Grove Avenue, San Marino 5, California, U.S.A.
WIGRAM, Mrs., 29 Eaton Terrace, S.W.1.
*WILLIAMS, Mrs.
WILLIAMS, G., Hailey, Ipsden, Oxford.
*WILLIAMS, G. A., 43 Leinster Gardens, Bayswater, W.2.
WILLS, Mrs. M. BLANCHÉ, c/o Williams Deacons Bank Ltd., Matlock, Derbyshire.
WILSON, D., British Consulate General, Algiers, North Africa.
WILSON, Lieut.-Colonel E. B., D.S.O., Woodside, Campsall, near Doncaster.
WINER, A. L., D.Sc., 22 Canewdon Road, Westcliff-on-Sea, Essex.
WINER, E., M.N.C.A.(Eng.), N.D., D.O., 70 New Cavendish Street, Harley Street, W.1.
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WOODWARD, W. A., 139 Lordship Lane, Tottenham, N.17.
*WORRALL, W. J., Culworth Lodge, Culworth, Banbury, Oxon.
WÖSSNER, Miss A., 3 Broadlands, North Hill, Highgate, N.6.
WOTTON, C. J., Swanwick, 6 All Hallows Road, Preston, Paignton, Devon.
*WRIGHT, D. D'AUVERGNE, F.R.C.S., M.R.C.S., L.R.C.P., Lotus Cottage, Wynberg Park, Cape Province.

YATES, Mrs., 14 Stanford Court, Cornwall Gardens, S.W.7.
YOUNGER, G. W., F.S.A., Woodchurch, Knoll Road, Dorking, Surrey.

OVERSEAS MEMBERS

AUSTRALIA

Bringwood, F. A.
 Busby, H. O.
 Carlson, F.
 Cook, A. A.
 Firth, M. P.
 Hawker, W. W.
 Lelean, Rev. A. D.
 Mackenzie, Engineer-Com. H. P.
 Molesworth, R. W. E.
 Mullett, W.
 Penrose, Miss E. M.
 Pither, Wing Comdr. A. G.
 Pole, J.
 Reynolds, S. J.
 Thomas, W. E.
 Wheeler, A. J.

TASMANIA

Thomas, R. S.

NEW ZEALAND

Bergen, F. W.
 Davidson, P. A.
 George, H.
 Hall-Jones, W.
 Ridder, E. H. C.
 Small, A. T.
 Walpole, R.

INDIA

Ashley, W. H.
 Cassini, P.
 Cleather, G. G.
 Dharmadhikari, H. K.
 English, C. I.
 Hartland, Lieut.-Colonel B. S.
 Indore, H.H. The Maharajah of
 Innes, C. A.
 James, Brigadier W. A. L.
 Kelly, M. St. John
 Le Patourel, H. J. B.
 Lea-Wilson, Rev. H. W.
 Mitchell, J. A.
 Murari, Major T.
 Oldham, Colonel G. M.
 Pelly, G. S.
 Pradhan, S. R.
 Talbot, Mrs.
 Tandau, P. D.
 Tweed, Lieut.-Colonel J. R. H.

CEYLON

Mahadeva, S.

CANADA

Holton, K.
 Hudson, Dr. Irene
 Line, Captain T. Campbell

WEST INDIES

Branch, L. H.
 Thomas, L. C. J.

ISLE OF MAN

Bridson Jones, T. E.
 Snowdon, Captain H. A.

NORTH IRELAND

Pratt, Venerable I. H.
 Reside, S. W.

NIGERIA

Henry, J. A.

CAPE PROVINCE

Fitzherbert-Brickdale, Mrs.
 Galpin, Mrs.
 Good, Mrs. N.
 von Knoblauch, Frau A.
 Morton, J. J.
 Wright, Dr. D. d'Auvergne

NATAL

Andrewes, Mrs.
 Bulkeley, G. V. O.
 Combes, R.
 North, F.

TRANSVAAL

Bell, H. C. F.
Flynn, T.
Schmitz, J. M.
Wilson, D.

ORANGE FREE STATE

Erlank, R.

RHODESIA

Laurie, A. S.
Sutton, A. T. C.
Watson, G. C.

KENYA.

Ganz, Dr. E.
Oulton, J.
Sprott, F. H.

NORTH AFRICA

Wilson, D.

UNITED STATES

Beals, A. D.
Blanchard, R. A.
Bobadilla, L.
Carrel, M.
Cowley, Dr. Flora L.
Ellis, F. E.
Erdman, Mrs.
Frew, W. A.
Frood, Miss D.
Gouthro, F. H.
Leon, T.
Overacker, R. H.
Palen, L. S.
Tomlinson, F. L.
Wigelsworth, Dr. J. W.
Wall, C.

ARGENTINE

Boyer, Mrs.
Guldborg, H. C.
King, V. A.
King, W. D. V. O.
Sarghel, M.
Weyler-Mackenna, Norman A.

EGYPT

Capes, J. L.
Chapman, P.
Pearse, A. S.

PORTUGUESE EAST AFRICA

Armstrong, C. B.

NORTH AFRICA

Wilson, D.

MEXICO

Leuze, A.

EIRE

Bennett, J. H.
Gardner, J.
Kelly, T. J.
Lefroy, Lieut.-Colonel H. P. T.
Lefroy, Mrs.
O'Reilly, H.
Pakenham Mahon, Major S. Hales

FRANCE

Arago, F.
Weatherby, Miss K. E.

ITALY

Hunt, K. H., R.E.
Sykes, E.

HOLLAND

Breyer, Dr. C. H.

BELGIUM

Bergen, A.
FitzPatrick, M. J.

Financial Statement: Year ended 30th June, 1946

I have examined the above Receipts and Payments Account with the Books and Vouchers and certify it to be in accordance therewith,
August 8th, 1946.

3345 S 0.151 ~~0.151~~

Stacy	E16.2	-	N 42
Cy/anna	E34.6	-	N 35.6
Ernest	E 48.8		N 34.8
N. S. J. A. J.	E 67		N 3.0
Bernice	E 96.8		N 19.5
Bonnie	E 116.8		N 6

~~197
 146
 122
 12
 95
 66
 E 52
 E 32
 E 10
 N 10
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 70~~

52.47 N
34.47 S

